PLEDGE

"India is my country. All Indians are my brothers and sisters.

I love my country, and I am proud of its rich and varied heritage. I shall always strive to be worthy of it.

I shall give my parents, teachers, and all elders respect, and treat every one with courtesy.

To my country and my people, I pledge my devotion. In their well-being and prosperity alone lies my happiness."

Sanctioned as a text-book for Standard IX as per Order No.
P. F. 6/792/13-11-1969 of the D. S., M. S. B. S. E. Poona

WE AND OUR WORLD

(SENIORS—PART II)

FOR STANDARD IX

(WITH 74 MAPS AND 30 ILLUSTRATIONS)

087

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PREFACE

The Education Department of the Government of Maharashtra has, during the course of the last few years, published textbooks in Geography for Standards IV to VII. The present series WE AND OUR WORLD (SENIORS) is an attempt to continue this series to the higher standards in the schools and is planned on similar lines, so that the teacher and the taught do not find a wide gap in the level of the subject matter taught earlier and in the higher classes.

The Part I for Standard VIII deals with the Regional Geography of countries in Europe and Asia, focussing the attention on influence of the geographical environment, production and recent developments, political as well as economic. The Part II for Standard IX deals with the Regional Geography of the rest of the four Continents—North America, South America, Africa and Australia—and some rudiments of Physical and Human Geography. The regional details of the different countries, particularly of Africa, have been brought uptodate. A very large number of maps, production oriented have been included in the series. It is expected that these maps are used in combination with good physical maps that are easily available in any good physical atlas, so that correlations between the physical surroundings, the people and the production can be quickly drawn in the classroom. A few illustrative pictures and photographs have also been added to keep alive the interest in the subject.

Each chapter has at its end a series of graded exercises of the short answer type as well as objective to give intensive training to the students. The sections on Regional Geography have towards the end summing up lessons so as to provide the student with an overall view of the continent as a whole. A revision exercise is also added at the end of each major section, covering all the lessons of the Section.

To the Teacher : Care has been taken to include as varied and interesting details as possible in each lesson, so that the teacher will not find the lessons wanting. In fact, the teacher can well afford to prune each lesson according to the standard of his class and present the matter. He should try to interest the students to indulge in the project works included at the end of the lessons, so that the student may in groups pick up useful information that will be of general interest to the entire class and also keep his interest in the subject aflame.

A separate mapbook to accompany this book is being published separately, so that the student can be given intensive training in map-filling exercises.

We trust that the book meets with the general needs of the teacher and the students. Suggestions for further improvement are greatly welcome; useful suggestions will be implemented in subsequent editions.

Bombay
April, 69.

Authors

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INTRODUCTION

Geography—A Science of Places

Geography has always been considered a science of places. All phenomena on Earth surface have *location*. This location is characterised by a particular distribution and extent as determined by the physical surroundings. Therefore, the location of a phenomenon must be understood in relation to its surroundings. A village or a livestock farm or an industry or a crop-land cannot be fully understood unless placed in the proper perspective of its physical base or *environment* and studied in mutual relations. Relationships, thus, between natural phenomena and human groups and activities constitute the basis of all geography.

The world offers a great variety of geographical phenomena (climate, vegetation, animals, habitats and ways of life) that intermingle in complex combinations and distribution. Geography should begin as a study with simple relationships and with simple geographical types that are easy to grasp and should lead to understanding of greater diversities and complexities. It must start as a science of observation in the locality in which the pupil lives and lead to simple but interesting correlations. For far off areas that cannot be seen physically, pictures, photographs, maps and simple explanations must form the data of observation on which the study of the region must be based. With imagination and directed attention, it will lead the pupil to realise and appreciate the problems of other regions of the world.

In this book, the student will be taken with the help of maps and pictures through far off lands, very much dissimilar from our own, with problems of an entirely different nature. He will learn about contrasting types of regions with differing types of human activities and production. He can quickly realise how this variety of production leads to an exchange and trade of commodities and increasing mutual understanding and relationship.

He will also learn about the physical surroundings and its marvels a bit more to arouse his curiosity of observation of Nature around.

SECTION I

NORTH AMERICA

You have learnt during the last year about two of the long settled continents of the world and the people in them. This year, you shall continue to learn about the rest of the continents of the world that have been settled and colonised more recently, over the last 400 years. Of them, the most well developed is North America.

North America, though lately colonised, has given us many valuable crops, plants and animals. Among the crops, the maize, the tobacco and the potato are American that have now spread to other parts of the world. Of the animals, the American caribou and bison are important. The Douglas fir and red pine of America are well known varieties of timber.

Crops, animals and people of the Old World have gone and settled in this new continent and developed its natural riches to make it a very wealthy continent. Let us see in the pages that follow how the American nations have developed their natural wealth.

CHAPTER 1

NORTH AMERICA—EXPLORATION, LOCATION AND PHYSICAL FEATURES

(i) Exploration and Location

Though West European sailors may have touched American shores as early as the 10th century, the continent of America was discovered for the civilised world in 1492 when *Columbus*, in search of a new route to India, landed in one of the islands of West Indies. In the years that followed, many explorers like *Cabot*, *Hudson*, *Drake* and many other French, Spanish and Dutch sailors journeyed along the shores of America. The *Pilgrim Fathers* were the first to land in the north-eastern shores and settle in the lands closeby. Slowly, the British, French and Spanish colonised and settled in different parts along the east coast. They gradually pushed farther west into the central plains and then the 'gold rush' to the west coast brought people rushing to the west coasts also.

Before America was colonised by the Europeans, native *Red Indians* roamed about freely in the interior lowland grasslands hunting the caribou and fishing in the streams. They did not do much farming. They used canoes in rivers. They used bows and arrows to hunt animals and fight enemies. But long ago, in parts of Mexico, civilisations existed, which are perhaps as old as civilisations in the river valleys of Asia and Egypt. For Example, the *Aztec* and *Maya* civilisations of Mexico are believed to be very old.

North America lies to the west of Europe and is reached across the Atlantic Ocean by ship or by air. From Asia, it is reached by travelling across the Pacific Ocean, eastwards from Japan. It lies between 7° N. and

72° N. latitudes and between 48° W. and 170 W. longitudes. Thus, it extends over tropical, temperate and cold climatic areas. In size, North America is twice as large as Europe and thrice as much as Australia. The continent narrows considerably in its southern parts.

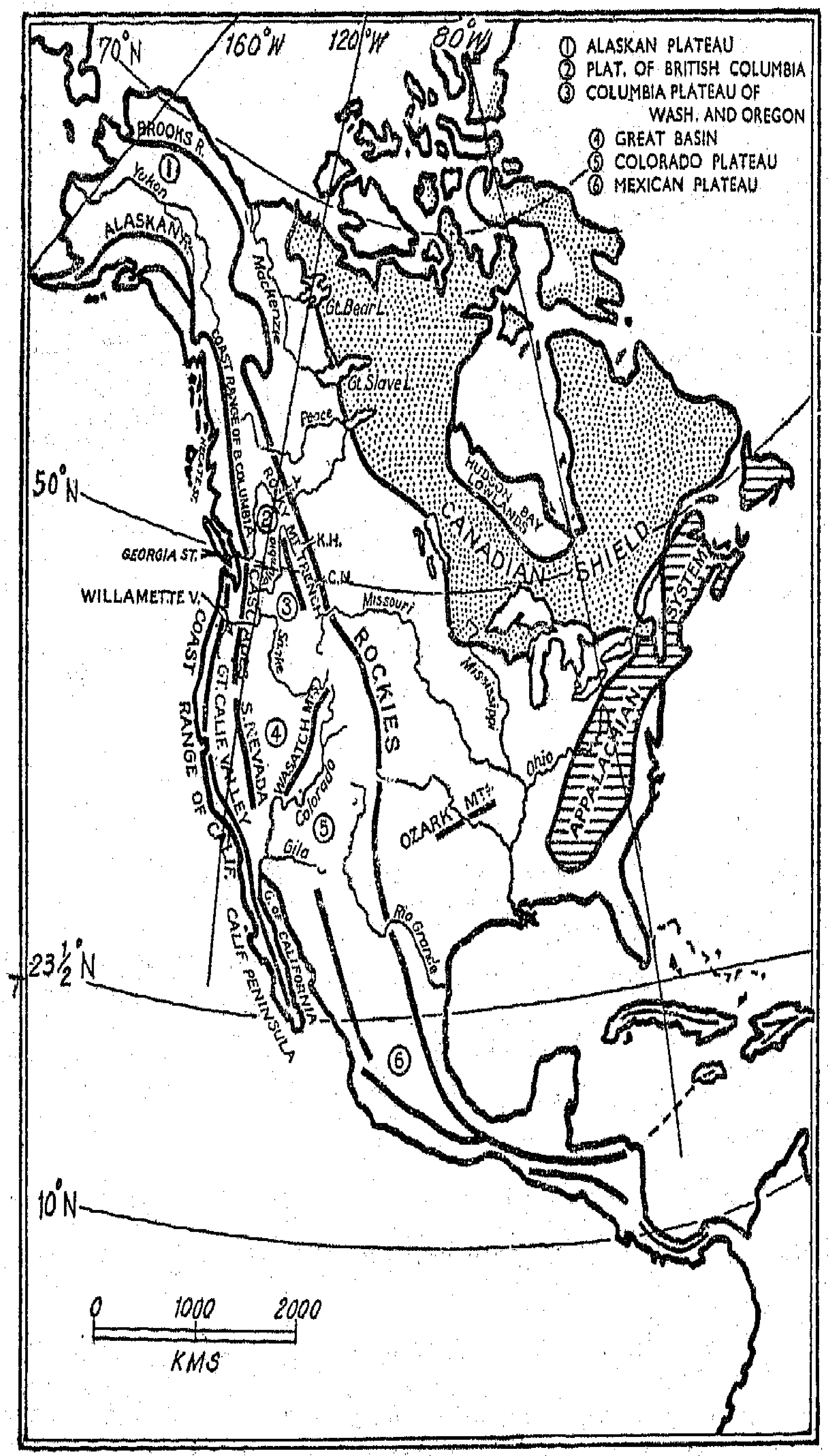
North America has a fairly long coastline facing the Atlantic, Pacific and Arctic Oceans. The coastline is fairly well broken, though not so well as in Europe.

(ii) Relief Features

In relief, North America falls into the following major divisions; the *Western Cordilleras*, the *Appalachian mountain system* along the east coast, the central lowlands, the northern shield and the west and east coast lowlands.

The *Western Cordilleras* extend north to south over a distance of 6500 kms.; they vary in width between 600 and 1500 kms. They run parallel and close to the western, Pacific coast. These Cordilleras consist of three main mountain chains : the *Coastal Ranges*, separated by narrow elongated valleys from the *Cascade ranges* and the *Sierra Nevadas*, further east. Still further east are the main *Rockies*. They are separated from the Cascades and the Sierra Nevadas by high, vast intermontane plateaus, like the plateaus of *Oregon*, *Nevada* and *Arizona*. These ranges are widest in the middle, in the U.S.A. and narrow into a single chain both northwards and southwards. They rise to considerable heights so that their peaks are permanently covered by snow. The average height of these chains is 5000 m. and the highest peak, rising to over 6000 m. occurs in Alaska–*Peak McKinley*.

Another mountain chain runs close and parallel to the eastern Atlantic Coast. It is called the *Appalachians*. Unlike the Western Cordilleras that are young, the Appalachian mountain system is very old. It consists of the *Blue Ridge* and the *Alleghany* and *Cumberland plateaus* to its west. The Appalachian system has been reduced in height to a mere 2000 m. due to wearing away by Nature's agents.



Map 1 ; North America—Physical Features

The northern parts of North America is a plateau called the *Canadian Shield* made up of very old crystalline rocks. To its south and in between the Rockies and the Appalachians is a vast lowland drained by huge river systems. It is a river-plain and may be called the *Central lowlands.*

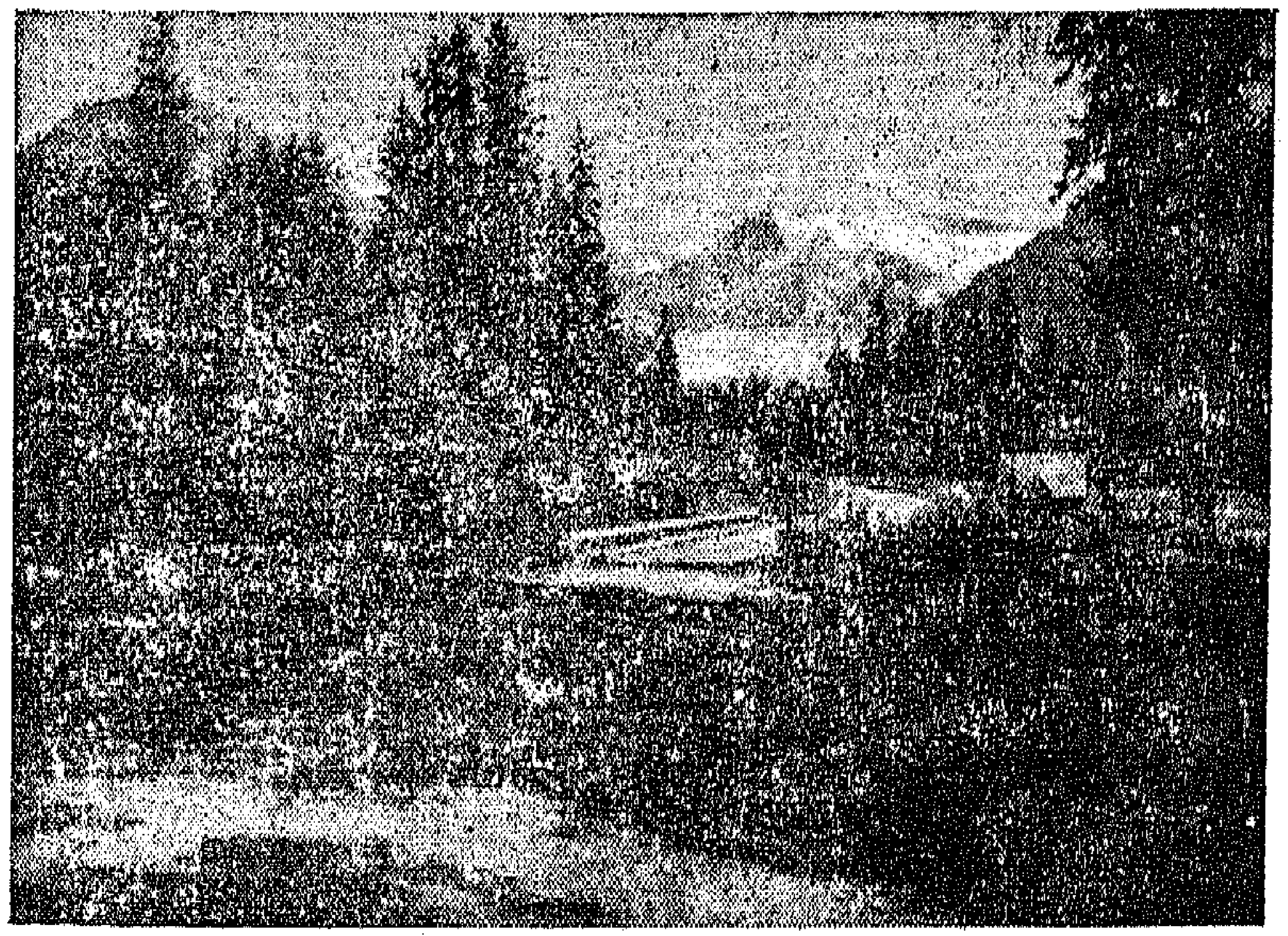


Fig. 1 : A glacier in Alaska (U. S. A.)-Coniferous forests are in the foreground

On either coast, there are *coastal lowlands* that are narrow. The west coast lowlands are narrower than those on the east, because, here, the coastal ranges run close to the shores.

The Western Cordilleras have many dead and active volcanic peaks. *Mt. Paracutin* in Mexico is active even today.

The northern parts of North America were in the long past covered by huge icesheets. When these icesheets melted or retreated, they left back fine soils, boulders and gravels which cover the surface over the northern half of the continent. Even today, in Alaska and northern Arctic shores of Canada, there are many living glaciers or ice-rivers.

(iii) Rivers and lakes

The largest river system of North America is the Mississippi-Missouri system. The *Mississippi* as well as the *Missouri* rise in the Rockies in northern U. S. A. and flow south to join the Gulf of Mexico, after forming a huge delta, jutting into the sea like a bird's foot. The *Ohio*, the *Platte*, the *Arkansas*, the *Red river* and the *Tennessee* are the main tributaries. The entire system, with deep, perennial flow, is navigable throughout the year. It forms one of the largest internal waterways of the world, in which even large ships can sail.

The St. *Lawrence* is another large river. It rises in Lake Ontario and flows northeast to join the Atlantic with a big estuary. It forms boundary between Canada and the U. S. A.

A large number of swift streams flow down the steep slopes on the western side and join the Pacific. Of them, the most important are the *Colorado*, the *Columbia* and the *Fraser*. These rivers rise in the central plateaus of Western Cordilleras. The Colorado flows through a desert before joining the Gulf of California. It has carved a very deep gorge, more than 2000 m. deep in the Colorado desert.

The *Mackenzie*, *Peace* and *Yukon* are the only rivers that flow north and join the Arctic. The *Rio Grande* is another large river rising in the Rockies and flowing in a deep valley to join the Gulf of Mexico. In its lower course, it forms boundary between Mexico and the U. S. A.

Many small streams rise in the Appalachian plateaus cut through the Blue Ridge in deep, narrow valleys and join the Atlantic with deep estuaries. These rivers are very useful in carrying grains and coal. Of them the *Connecticut*, the *Hudson*, the *Susquehanna*, the

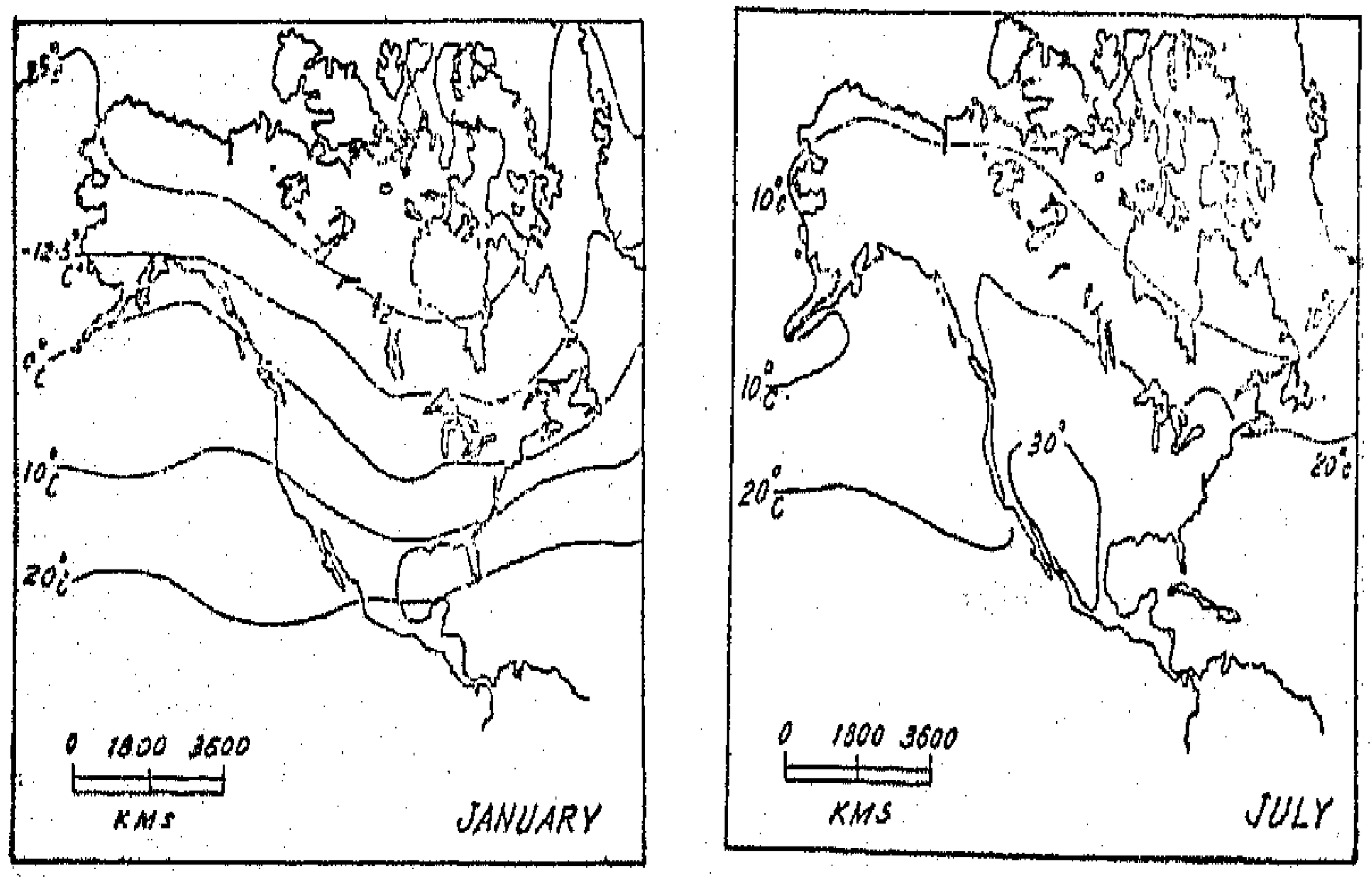
Delaware, the *Potomac* and the *James* rivers are the most important.

The retreat of glaciers and icesheets has left back a very large number of deep, fresh water lakes in the northern parts of this continent. The *Great Lakes*, on the U. S.-Canada boundary are the most important. They are five in number : *Lake Superior*, *Lake Huron*, *Lake Michigan*, *Lake Eire* and *Lake Ontario*. These have now been interconnected and are very useful waterways. The *Great Bear* Lake, the *Great Slave* Lake, Lake *Winnipeg*, Lake *Athabaska*, all in Canada, are also such ice-formed lakes.

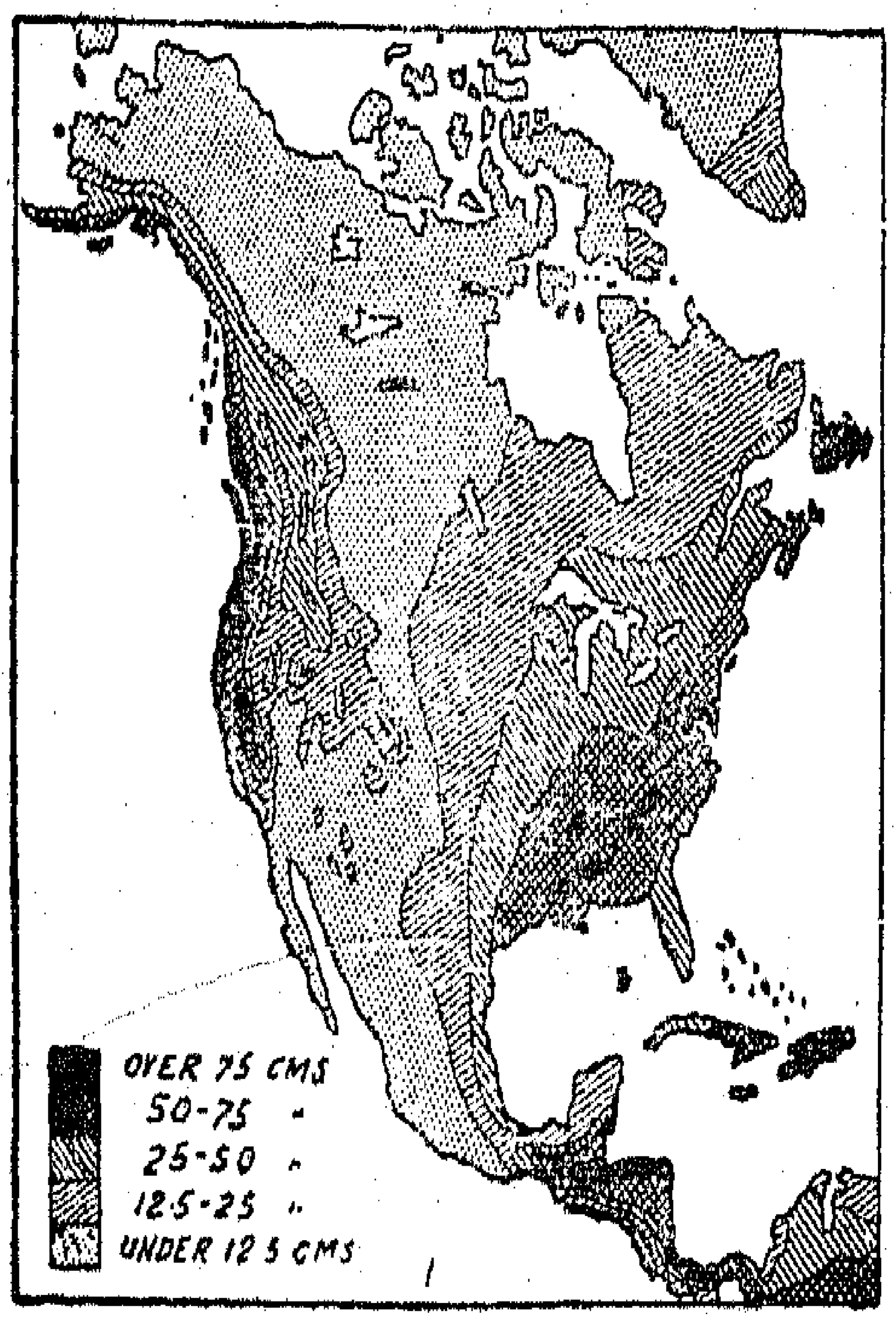
The *Great Salt lake* in the central plateau of the Western Cordilleras is the only large salt water lake of North America.

(iv) Climate

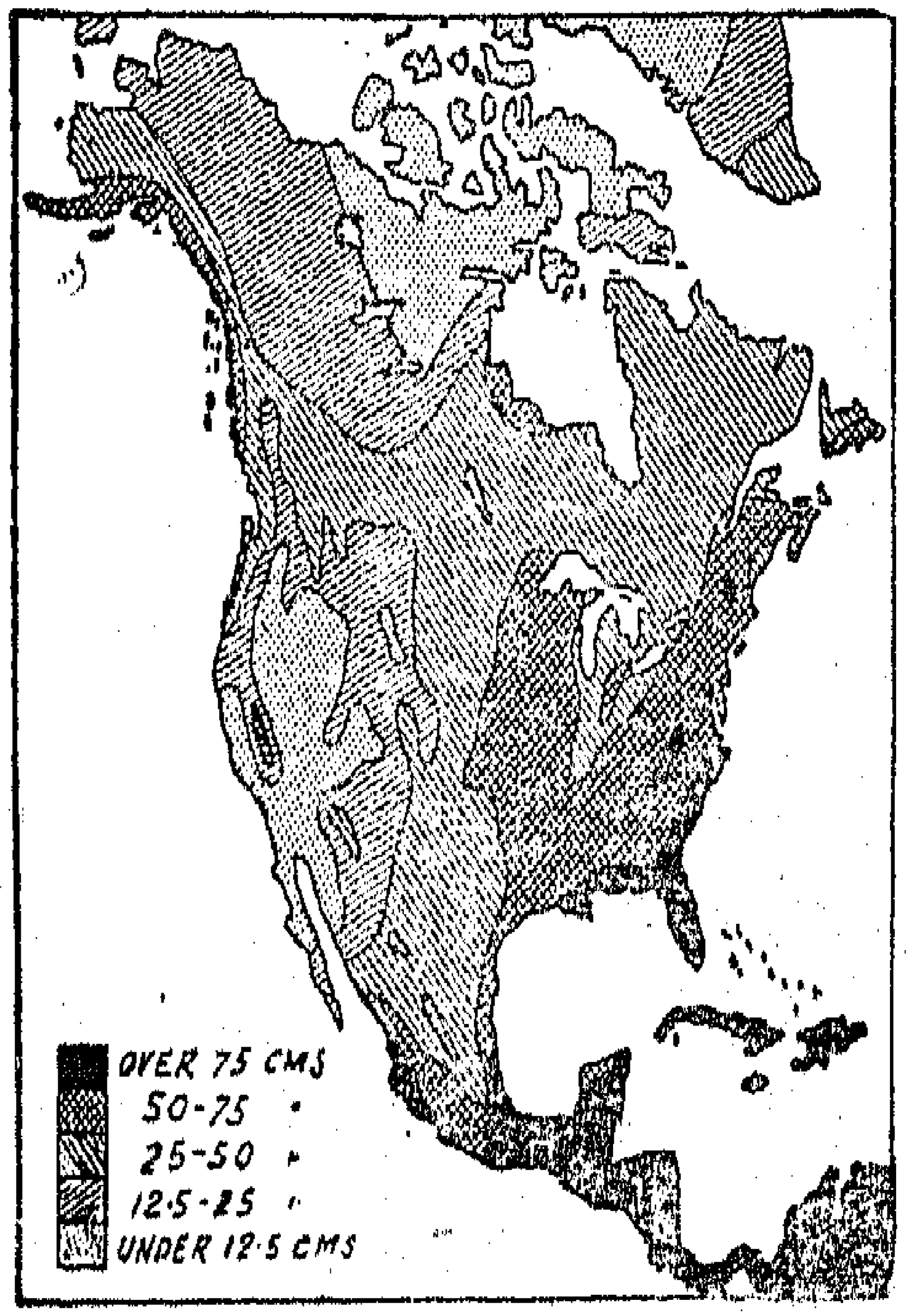
North America extends from tropical to polar latitudes. The continent is narrow in tropical areas and is widest in temperate latitudes. In summer, the southern parts—Mexico in particular—are hot, while the rest of the continent has mild temperatures. It becomes cooler northwards. In winter, the southern parts are warm, while the north–the entire Alaska, Canada and extreme northern parts of the U. S. A.—freezes and is snowbound. The eastern shore of the U.S.A. is warm while the western Pacific coast is cool because, the east coast is washed by warm ocean currents while the west coast is washed by cool currents. The eastern coast of Canada in Labrador is snowy and foggy, once again because of cold currents that flow past the coast.



Map 2 : North America—January and July Temperatures



Map 3 (a) : North America-Winter rainfall



Map 3 (b) : North America-Summer rainfall

During summer, south Mexico, south-east coast of the U. S. A. and central America receive heavy rains from the trade winds and the storms that they bring with them. The rainfall is heavy and downpouring. Eastern U. S. A. and central Mexico receive moderate rains. The central and northern lowlands receive light spring rains. Rainfall in general decreases to the west.

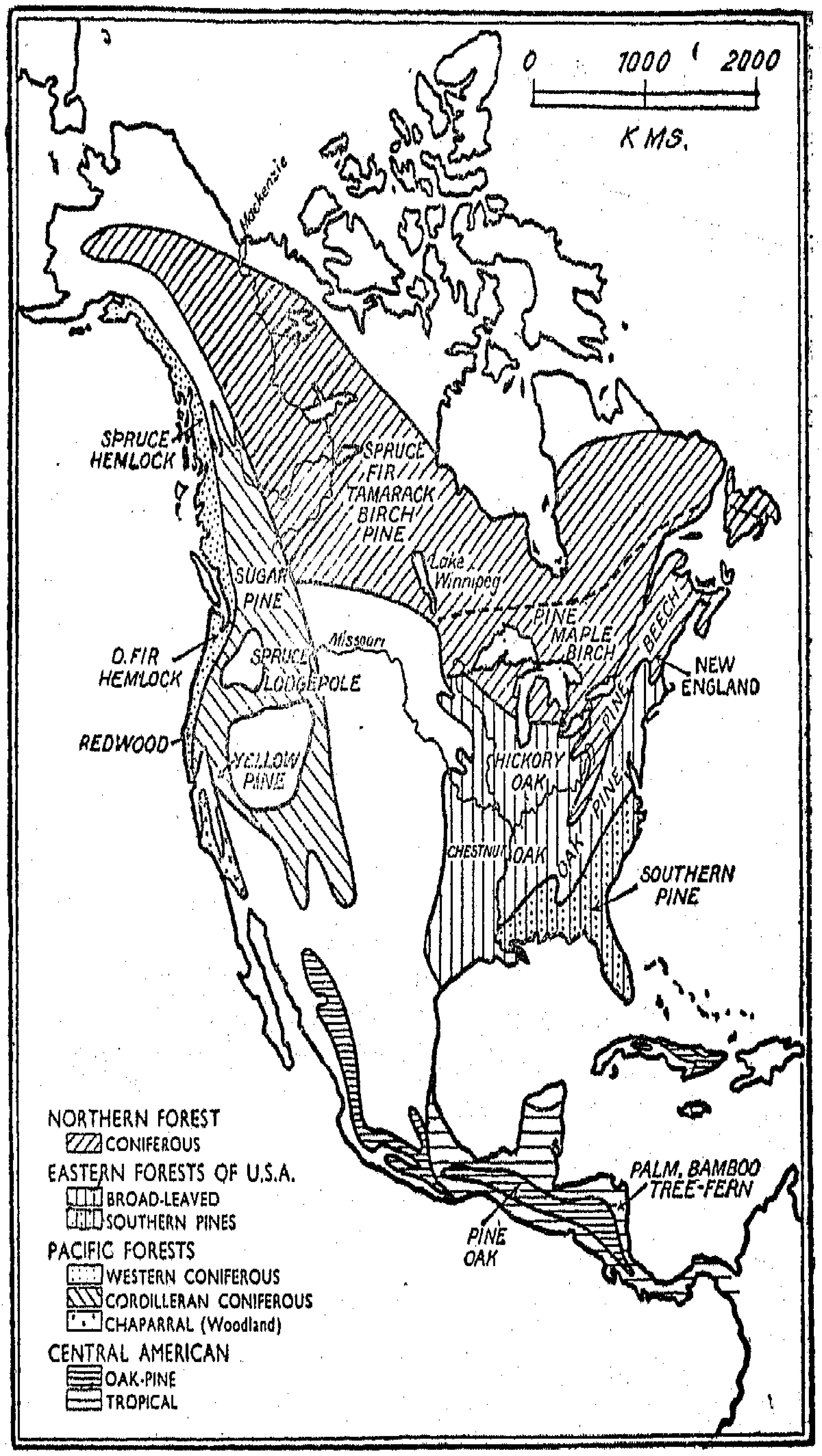
During winter, only the west coast, north of 30° N. receives heavy rains from the onshore west winds. The east coast also receives light to moderate rains due to storms. In the interior, it is practically dry.

Summing up, we may recognise, a tropical wet climate in south Mexico and central America, a coastal wet temperate climate along the east coast of U. S. A. a 'Mediterranean' type of climate in southwest Pacific coast of U. S. A., a 'British type' of coastal temperate climate in west coast of Canada and N. W. Pacific coast of U. S. A. and a foggy temperate climate in eastern, coastal Canada. The interior of North America has a temperate continental climate, while the plateaus of the Western Cordilleras are deserts and semideserts.

(v) Natural Vegetation

North America, a few centuries back, was extensively covered by forests. Most of them have been cleared At present, tropical forests are found mainly in the hill ranges of Mexico and Central America. Subtropical evergreen forests are found in the South Appalachians, and temperate deciduous forests in north and central Appalachians. The southwest coast of U. S. A. has 'Mediterranean' type of vegetation, while coniferous softwood forests occur widely over Canada, the Rockies and northeast U. S. A. The central lowlands of U. S A. and Canada form extensive temperate grasslands, called the *Prairies*. The grass here is short but nutritious. Desert and steppe vegetation are found in north Mexico and southern interior plateaus of the Cordilleras.

These forests of North America are at present scientifically managed and yield large income to the countries. Pine, oak, redwood, spruce, maple, birch, beech, hemlock and fir are the main types of timber from this continent.



Map 4 : North America–Forests

(vi) Countries of North America

North America has few countries. North of 49° N. latitude, extending from the Pacific to the Atlantic is *Canada*, a dominion of the British Commonwealth.

To its south lies one of the richest nations of the world, the *United States.* (U. S. A.). *Alaska* in the extreme northwest of North America is a province of the U.S.A. To the south of the United States is *Mexico.* Further south are the countries of central America that are small republics. They are *Guatemala, British Honduras, Honduras, Nicaragua, Costa Rica* and *Panama.* Lying south of the U. S. A. and east of Mexico in the Gulf of Mexico are the *West Indies* and *Bahama islands.*

Exercises

1. Answer the following :
   - (a) State the main physical divisions of North America.
   - (b) Compare the Rockies and the Appalachian mountain system.
   - (c) What is the effect of the cover of icesheets during the past over the surface of the land of North America ?
   - (d) Why are the intermontane plateaus of the Western Cordilleras deserts in climate ?
   - (e) Which parts of North America are covered by coniferous forests ?
2. Write short accounts of the following :
   - (a) The Mississippi river system ;
   - (b) The Great Lakes ;
   - (c) The Western Cordillera ;
   - (d) Exploration of North America ;
   - (e) The Red Indians.

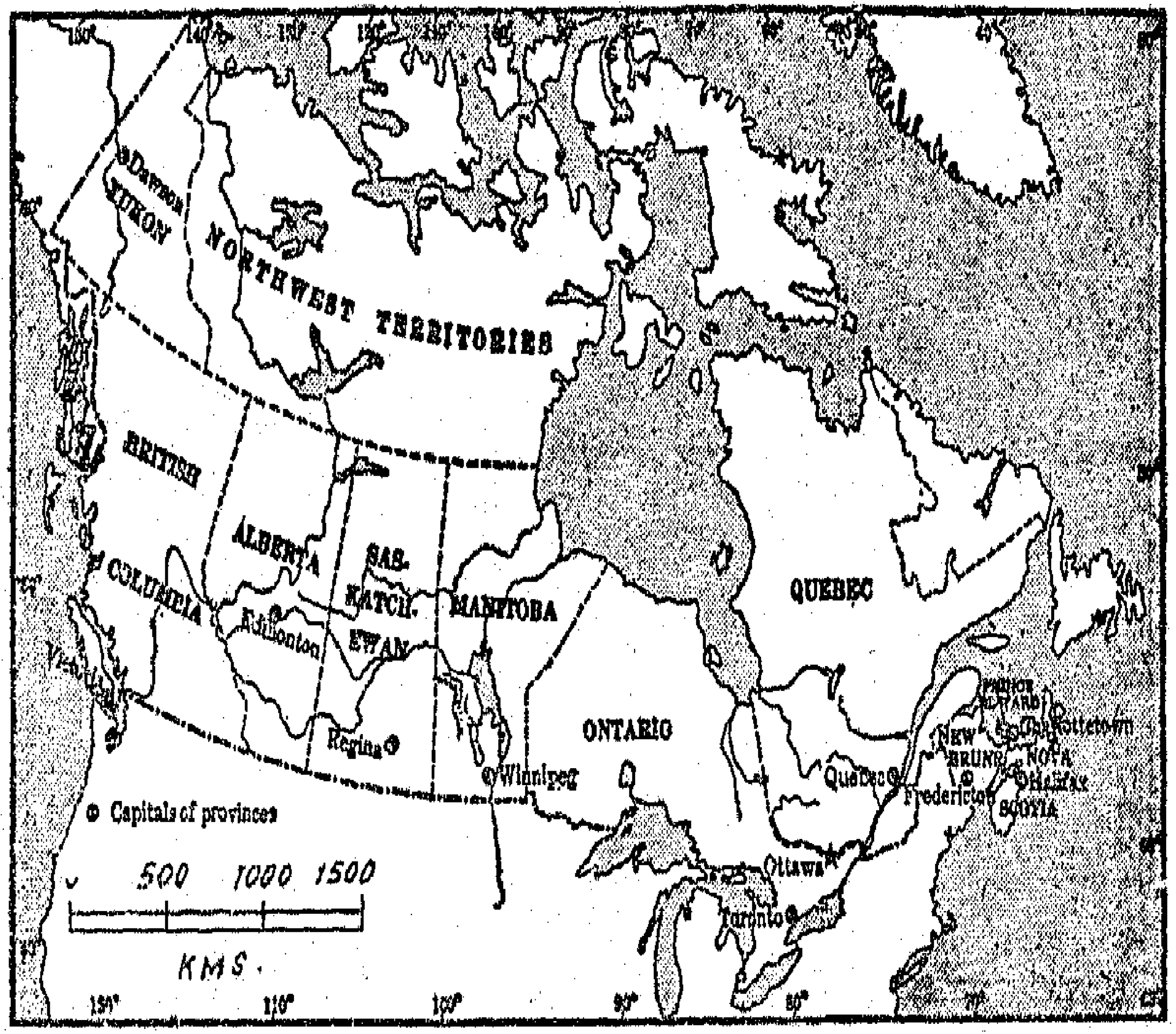
Project Work

1. *Collect pictures of the national flags of North American countries. Find from your teacher, why the flag of US has so many stars in it.*
2. *Collect information and details about the Red Indians and their life.*
3. *Find out the names of the major explorers and discoverers who explored North America. Also find out when they explored and which parts of the country.*
4. *Study the Map 4 showing forests. State the varieties of trees found in each type of forest.*

CHAPTER 2

THE DOMINION OF CANADA

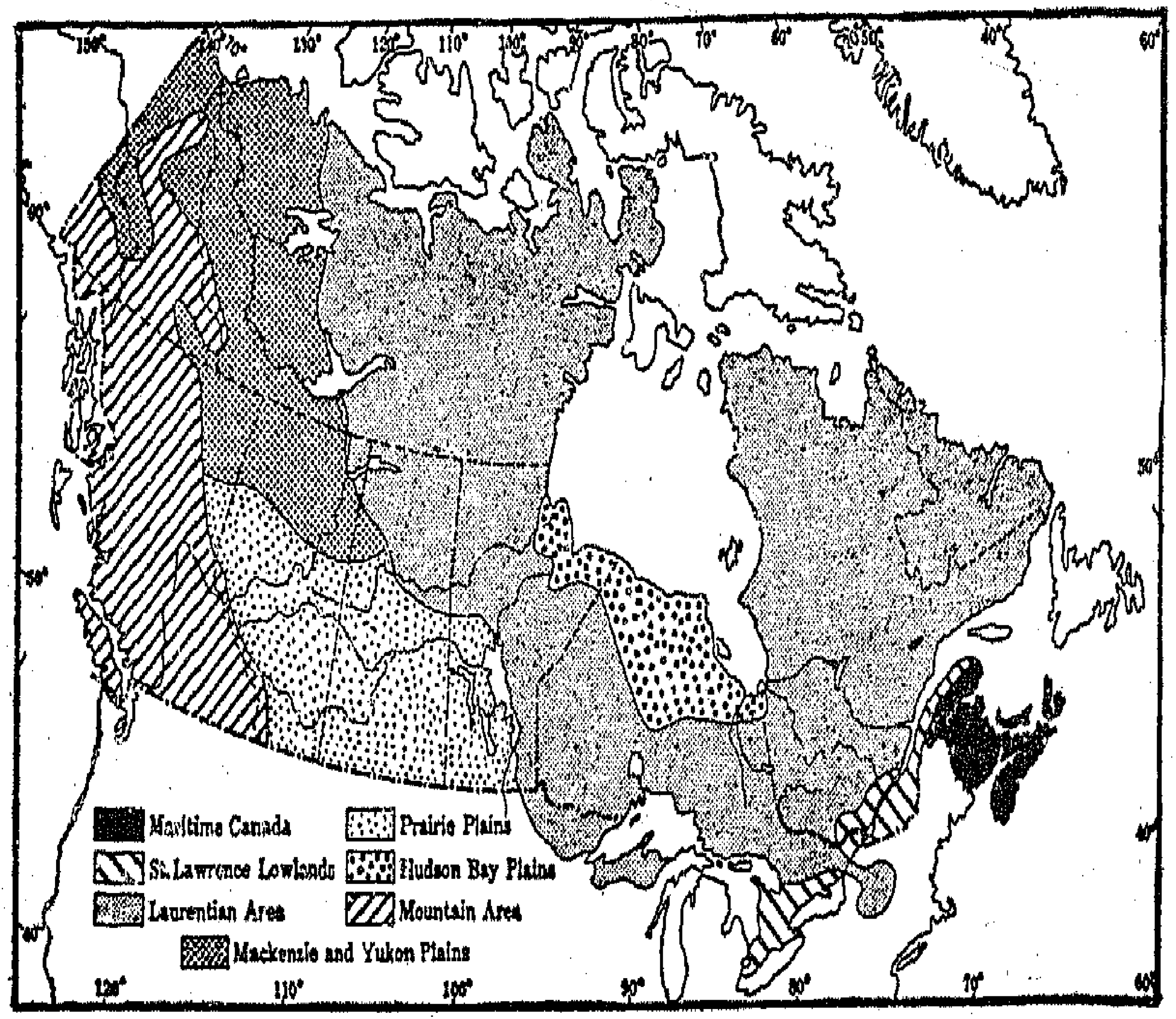
Stretching between the Arctic Ocean and 50° N. latitude is the British Dominion of Canada. From the Pacific to the Atlantic shores, it is more than 5000 kms. wide.



Map 5 : Canada—Administrative divisions

Since the exploration by *Cabot* and *Hudson,* Canada has been settled by the French and the British. It is a large country with an area exceeding 9 million sq. kms., but it is thinly settled, whith a population of 20 millions. The country is divided for purposes of administration into 9 provinces : the *Northwest* along the Arctic shores, *British Columbia* on the Pacific coast, *Alberta, Saskatchewan* and *Manitoba* in the interior, *Ontario, Quebec, New Brunswick,* and *Nova Scotia* on the east, and the island groups of *Newfoundland* and *Prince Edward island,* facing the Atlantic.

Canada has a coastline that is 25000 kms. long. More than half of it faces the north, towards the Arctic and the Hudson Bay, and is useless, being frozen most of the year. The Pacific coast in British Columbia is highly broken. It has hundreds of fiords, like Norway The east coast in the Atlantic is also a barren coast.



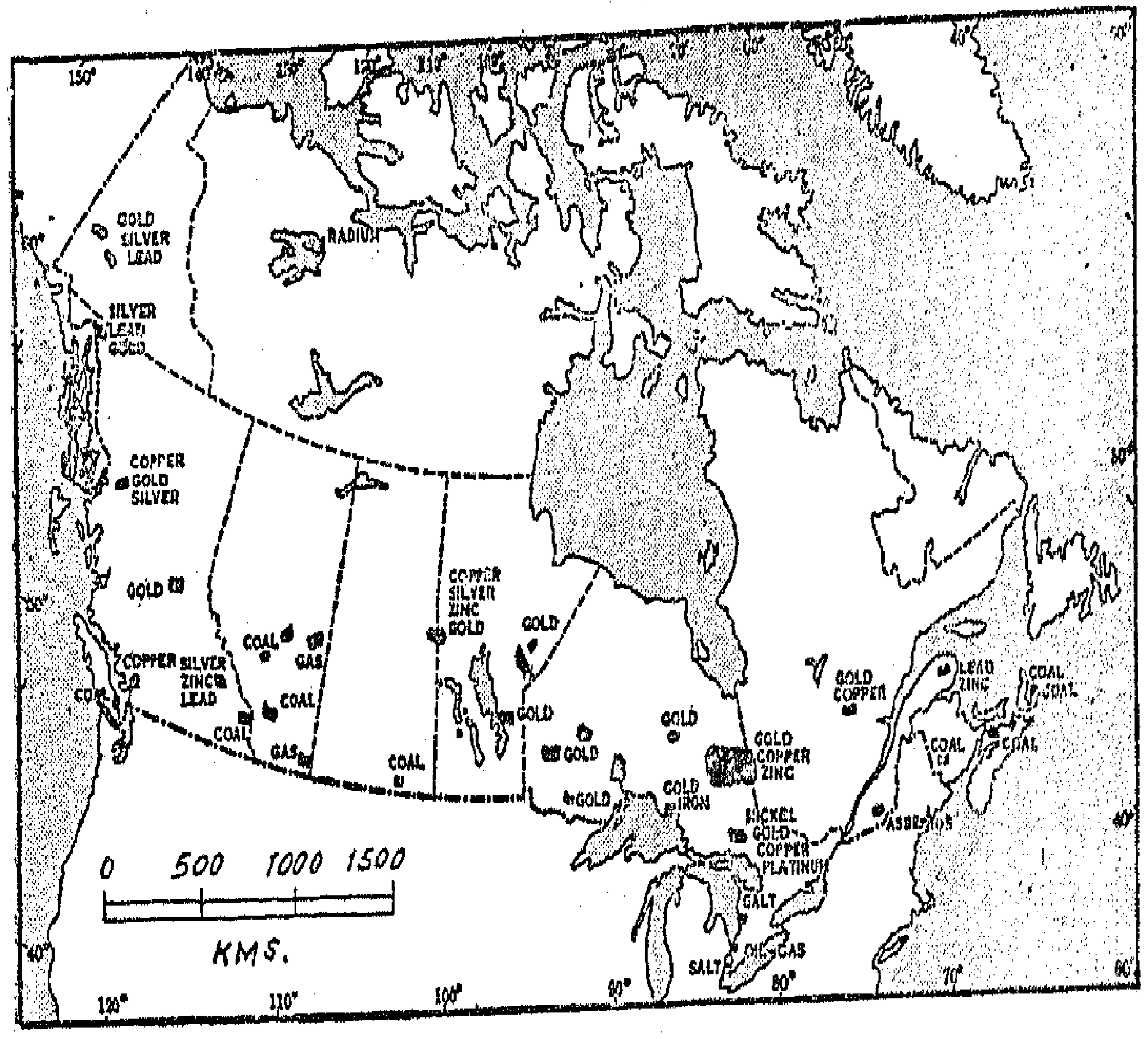
Map 6 : Canada—Physical Units

The *Rockies* run as a huge mountain chain north to south close to the west coast of Canada. It has few, useful passes. To the west of the Rockies is a narrow rocky coastland-full of islands, fiords and pockets of lowlands. The island of *Vancouver* is one of the largest. To the east of the Rockies is a vast plain, covered by icesheets in the past. It is full of lakes and is covered by rich clayey soils. Around the Hudson Bay and the Atlantic coast is the plateau of *Labrador*, a part of the Canadian Shield. The northern Arctic shores of Canada is full of islands, big and small.

The St. *Lawrence river* on the southern boundary of Canada is the largest river. It flows into the Atlantic to the south of Labrador. During winter, this river freezes. The *Mackenzie* and the *Peace* rivers rising in the plateau flow north into the Arctic. They are frozen over most of the year and are of little use. Many swift streams, full of rapids, flow west and join the Pacific. Of them, the *Fraser* is the largest.

The northern, arctic coastal regions of Canada have a 'tundra' type of climate. The central lowlands have a continental temperate climate with mild summers, freezing winters, and light spring rains. British Columbia on the west coast has a mild temperate coastal climate, similar to Britain, with rains all the year. The hill slopes, here, receive very heavy rains. The east coast is snow and fog-bound most of the year. This is because of the cold Labrador current and the chilly winds that flow past them. Labrador plateau is a barren cold desert.

Nearly half of Canada has rich forest-cover. The Rocky mountain slopes as well as the northern parts of Canada are covered by coniferous softwoods, like pine, spruce and fir. The forest trees are cut by lumbermen with the help of mechanical saws during autumn and the logs are allowed to season in the winter snow. In spring, when the snow melts, the logs are floated downstream in the rivers, collected in the coastal sawmill centres and made into a variety of useful products. These forests are rich in a number of fur-bearing animals like mink, fox and chinchilla. Trapping them used to be an important occupation in the past, but the animal population is on a decline. Nowadays the Government runs fur-farms where such animals are kept in forest surroundings.

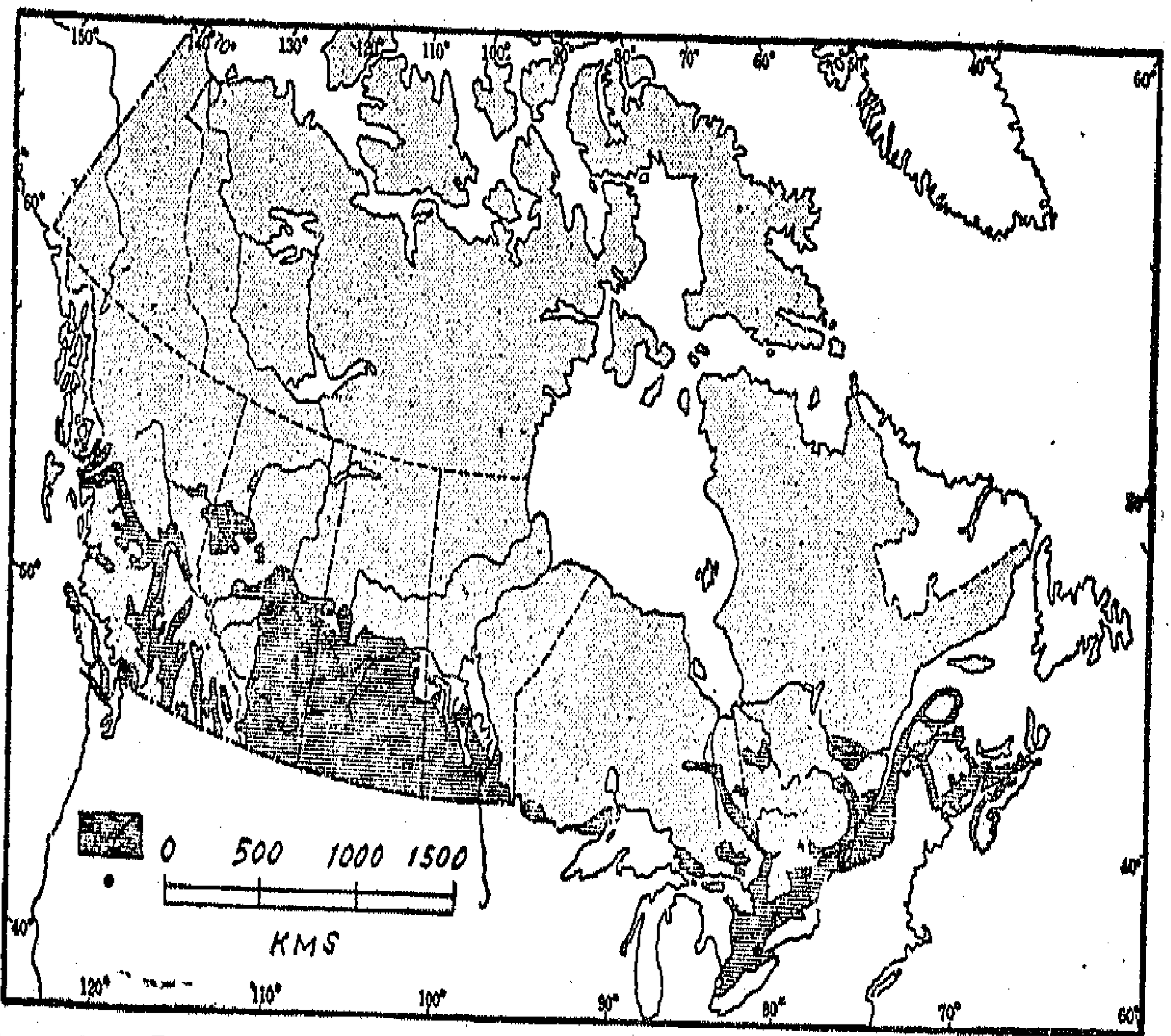


Map 7 : Canada—Minerals

Canada is very rich in minerals. Gold is obtained from the Fraser and Mackenzie river valleys. Copper, nickel, cobalt, zinc, lead, silver and uranium are mined mainly in British Columbia, Ontario and Quebec. The *Sadbury* district is an important mining region. Iron and coal are mainly mined along the east coast in Nova Scotia and in British Columbia. Oil is drilled in Alberta near *Edmonton* and sent by long pipelines to Vancouver island on the west coast or to Toronto. Natural gas is also produced.

Canada is very rich in hydel power too. Only half of it is used. Hydel power is mainly generated at *Niagara*, in the St. Lawrence valley and in the streams flowing through the Rockies. It is used in saw-mills and forest industries as well as for mining purposes.

Canada in the past was covered by extensive grasslands in the Prairies in the interior. The Red Indians used to roam about here, hunting the *caribou*. Now, most of these grasslands have been cleared and the rich ice-deposited soils have been made into farmlands. All farmlands are not in use. Only in the southern parts, along the railways, huge farms are cultivated with the help of machinery, like tractors, harvesters and elevators. In Canada, labour is costly and in short supply. Therefore all farm-work, from the preparation of the land to the marketing of the grains, is done by machinery driven by electricity. Wheat is the main crop, grown during spring. Canada produces annually about 15 million tons of wheat, most of which is exported to Europe and India. Other than wheat, barley, rye, sugar beet and oats are grown mainly to feed the livestock. Fruits, especially apples and hops, are important in the St. Lawrence valley



Map 8 : Canada—Agricultural areas. Note that all farm lands are in the South.

Livestock are kept in large number in grasslands. Dairy cattle are kept in British Columbia and in Ontario and Quebec. Wool and mutton sheep are reared in the interior grasslands and hill slopes.

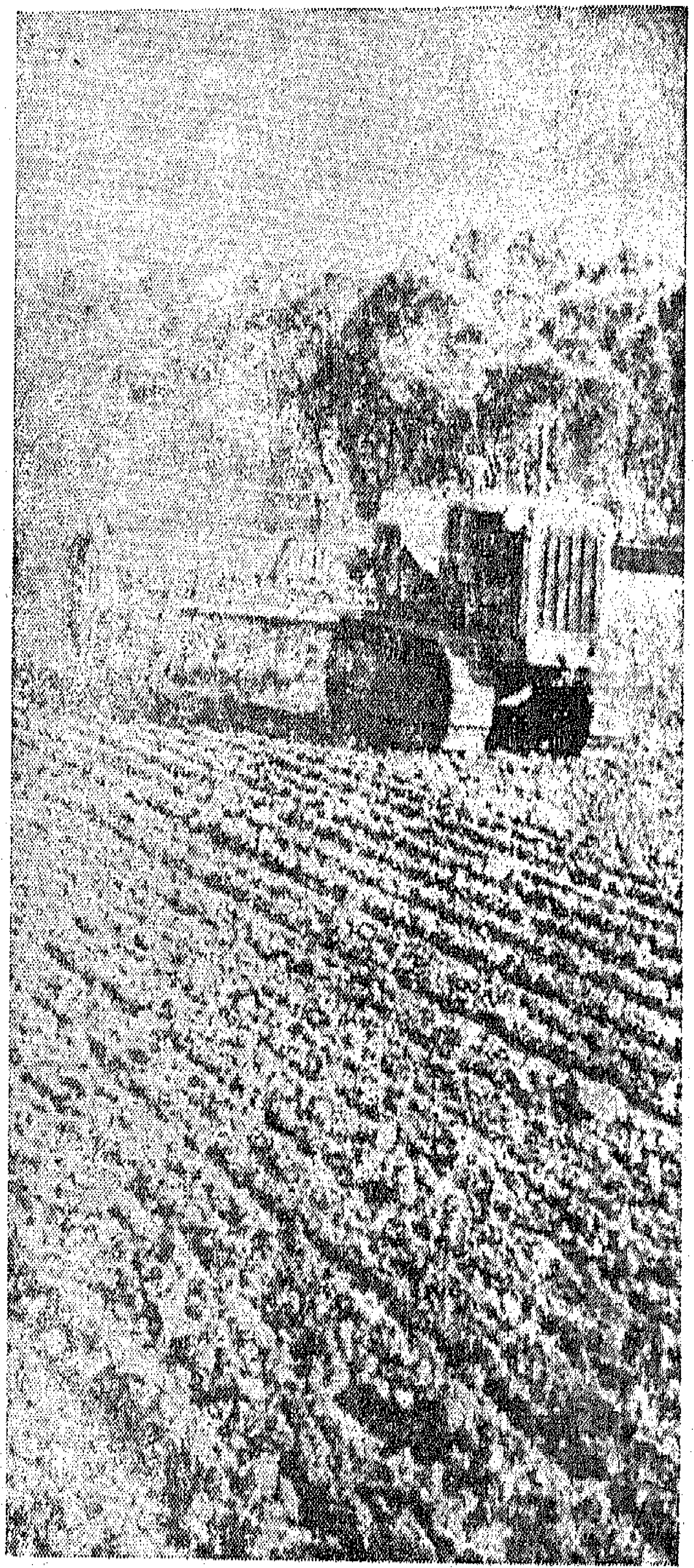


Fig. 2 : Use of farm machinery for harvests

Fishing is an important activity on both the west and east coasts. Large mechanised trawlers engage in fishing. The *Grand Banks* off Newfoundland is a major fishing region. The people of Newfoundland are essentially fishermen. A variety of fish, like halibut, mackerel cod and salmon are caught. Here, fishing in the banks is

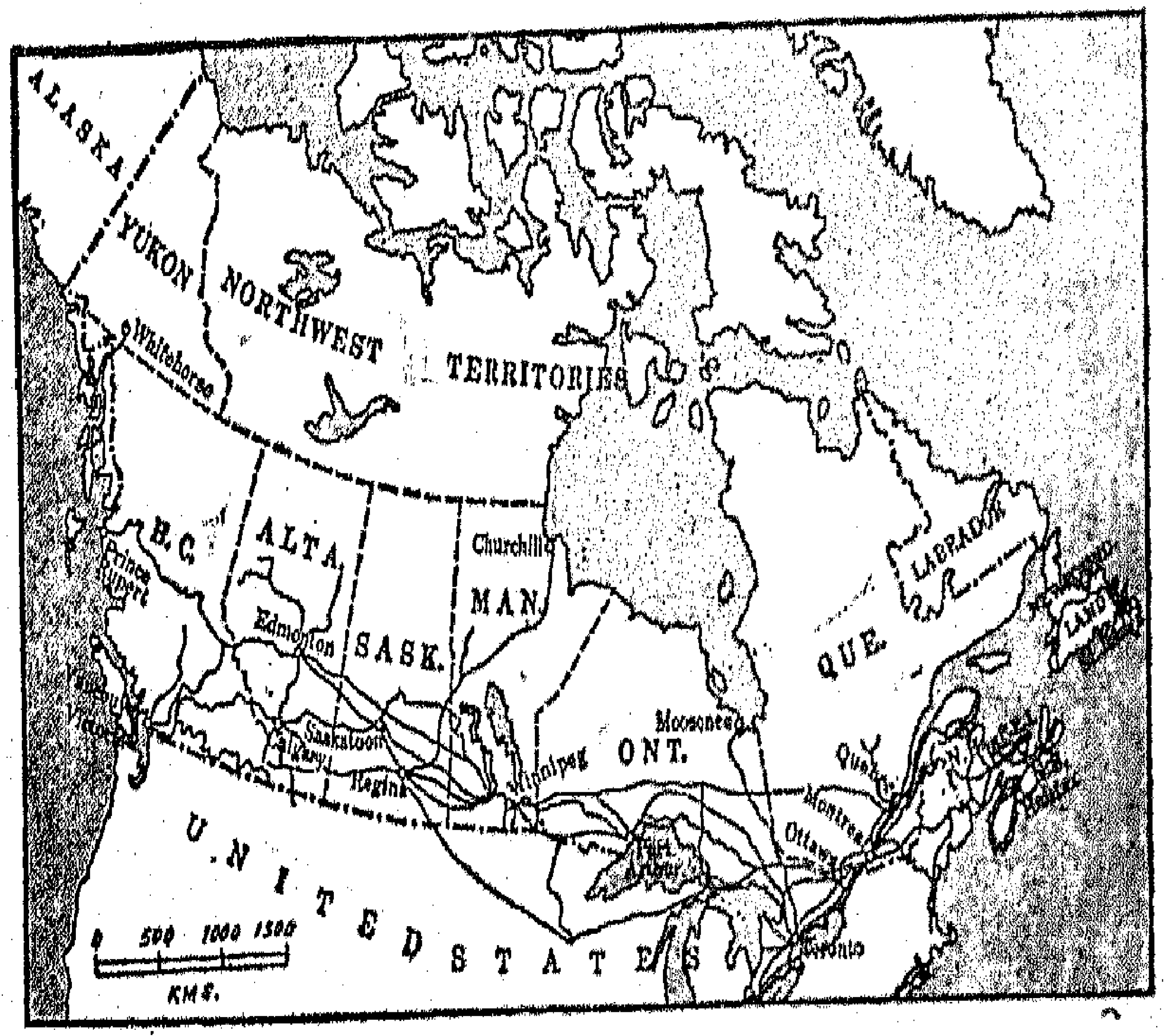
dangerous on account of the huge icebergs that at times float in the cold current. The British Columbian coast is also noted for fishing particularly salmons. Inland, in the rivers and lakes, fishing is done on a large scale. Canada exports considerable amount of fish, dried and canned to West Europe. In the Arctic shores, whale fishing is an important activity.

Though agriculture is an important occupation of Canada, industries have developed remarkably well. Most of the industries are concentrated in the towns of the St. Lawrence valley and along the Great Lakes region. This is because most of the Canadians live here. The industries of Canada import iron and coal from the U. S. A. but export their own coal and iron to the U. S. A. This is done because the Canadian coal and iron mines are more than a thousand kilometres away from the industrial areas and it is cheaper to bring coal and iron from the U.S.A. through the lakes than bring the home production by rail The main industrial products are iron and steel, machinery, agricultural implements, chemicals and fertilisers, lumber, wood pulp, paper and matches, newsprint, cellulose and rayon. There are a number of oil and metal refineries. Canada is one of the largest producers and exporters of wood pulp, paper, newsprint and cellulose in the world.

The 20 million Canadians are of British and French origin. They speak either English or French. There are about 2 lakh Red Indians and a lakh eskimos. The eskimos live in the north, herding the reindeer and fishing in *kayaks*.

Nearly three-fourths of the people of Canada live in towns. Almost the entire population lives in the southern parts, close to the U.S. boundary and in the St. Lawrence valley. **Ottawa** is the capital of Canada. *Montreal*, the largest city of Canada is an island city in the St. Lawrence river valley. Is is a commercial and banking centre and river port. It is one of the largest grain handling ports of the world with huge elevators, godowns and grain docks. *Quebec city*, with a French atmosphere, also lies on the banks of the St. Lawrence. It is a tourist centre, and centre for saw mills, wood-pulp, paper and cellulose. *Toronto* on the lake Ontario is an industrial town and lake port. *Hamilton*, nearby, is a steel centre. *St. Johns* in Newfoundland and Hailfax in Nova Scotia are large fish handling ports. *Winnipeg* in Manitoba is a railway junction and large inland grain handling centre. *Calgary* and *Edmonton* are large inland towns. *Vancouver* on the Pacific coast has a fine harbour.

Two transcontinental railways run coast to coast in the southern parts of Canada and serve the country well. The *Canadian Pacific railway* runs from Vancouver to Montreal while the *Canadian National railway* runs from Prince Rupert on the Pacific coast to Halifax and St. John on the Atlantic coast. The two railways meet at Winnipeg. These railways have helped in opening the Prairies for farming, forestry and mining. Grain, forest products and minerals move east on these railways, while textiles, manufactures and finished goods move west. Most of the towns and villages of central and western Canada lie along these two railways. The *Alaska highway* connects a railway terminal, Dawson creek, with Alaska through the northwest province.



Map 9 : Railways in Canada

The Great Lakes and the St. Lawrence river are used by even large ocean going vessels of the Atlantic for foreign commerce. The St. Lawrence has recently been deepened and widened into a navigable 'seaway' and is widely used by ships.

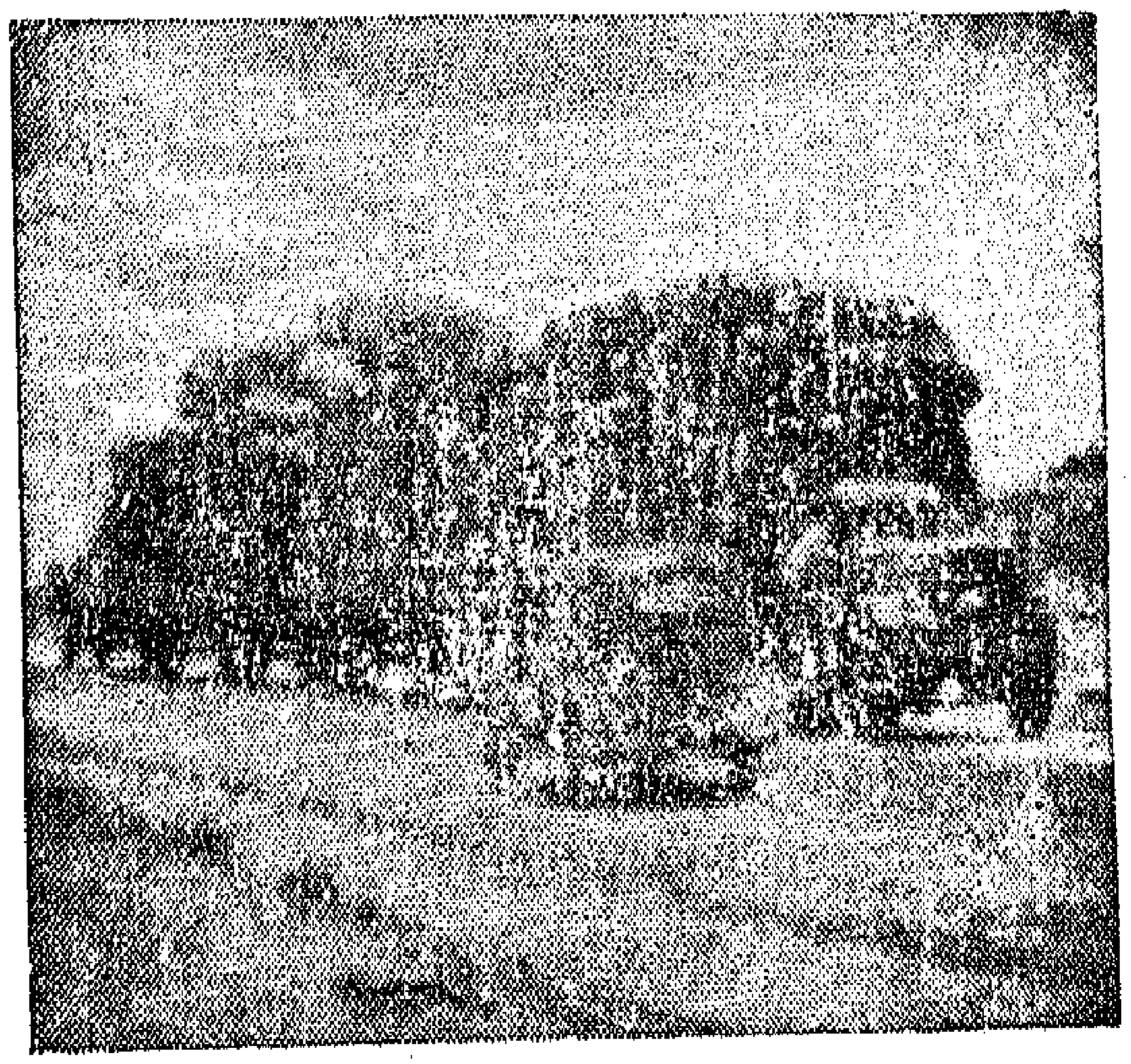


Fig. 3 : A loaded Road Train

Airways also interconnect the different parts of Canada.

Canada exports wheat, livestock products, salmon fish, mineral ores, paper and paper products The country imports textile goods, sugar, tea, jute products and manufactured goods. India imports wheat, paper and newsprint from Canada and exports tea, coffee, manganese, mica and jute products. Bulk of the trade of Canada is with the United States and United Kingdom.

Exercises

1. Answer the following questions :
   (a) How are the Prairies of Canada suitable for wheat farming ?

(b) Why have paper and wood-pulp industries developed well in Canada ?

(c) State the main physical divisions and administrative divisions of Canada.

(d) Where do most people of Canada live ? Why ?

2. Write brief accounts of the following, in not more than ten lines each :
(i) The railways of Canada; (ii) The mineral wealth of Canada; (iii) The St. Lawrence Seaway.

3. Mention one centre from Canada for the following. State why it is important. Steel manufacture; salmon canning; wheat storing and handling.

Project Work

1. *Draw a map of Canada from the Great Lakes eastwards and locate all the major towns in it. Find the reason for most of the large towns being located on the St. Lawrence river.*
2. *On a map of Canada, mark the railways and the major towns on them. State in brackets against each town, the major product that you think it handles.*
3. *Collect pictures and photographs of a fur farm, a lumber cabin, mineral mining, steel plant, fishing, paper mill, and hydel power station. Stick them on a map of Canada at locations which you think are best suited.*

CHAPTER 3

THE UNITED STATES OF AMERICA

The *United States of America* with an area of about 10 million sq. kms. and a population of 190 millions is the richest nation of the world. Originally made up of thirteen colonies of European settlers on the Atlantic seaboard, it became an independent country in 1776 after the war of American Independence. Today the United States (shortened as U.S. or U.S.A.) consists of 48 states in the mainland, *Alaska* in northwest North America and the *Hawaii* island group in the Pacific. In all, it has 50 states.

The U.S.A. lies between 25° N. and 49° N. latitudes and between 124° W. and 66° W. longitudes. It has four time belts. The 49° N. latitude, the Great Lakes and the St. Lawrence river form the boundary between the U.S.A. and Canada. The Rio Grande river runs mostly along the southern, Mexican boundary. Most states of the U. S. A. have straight boundaries running along latitudes and longitudes.

(i) Relief and Drainage

From what we have learnt in the first lesson, the United States can be divided into the following major physical divisions :

(1) The *East and Gulf coast lowlands* adjoining the Atlantic Ocean and the Gulf of Mexico are sandy low coasts with marshes, sandbanks, lagoons and estuaries. The Mississippi has formed a huge delta in the southern Gulf coast.

(2) The *Appalachians* consists of the Blue Ridge rising steeply to nearly 1500 to 2000 m. from the Atlantic

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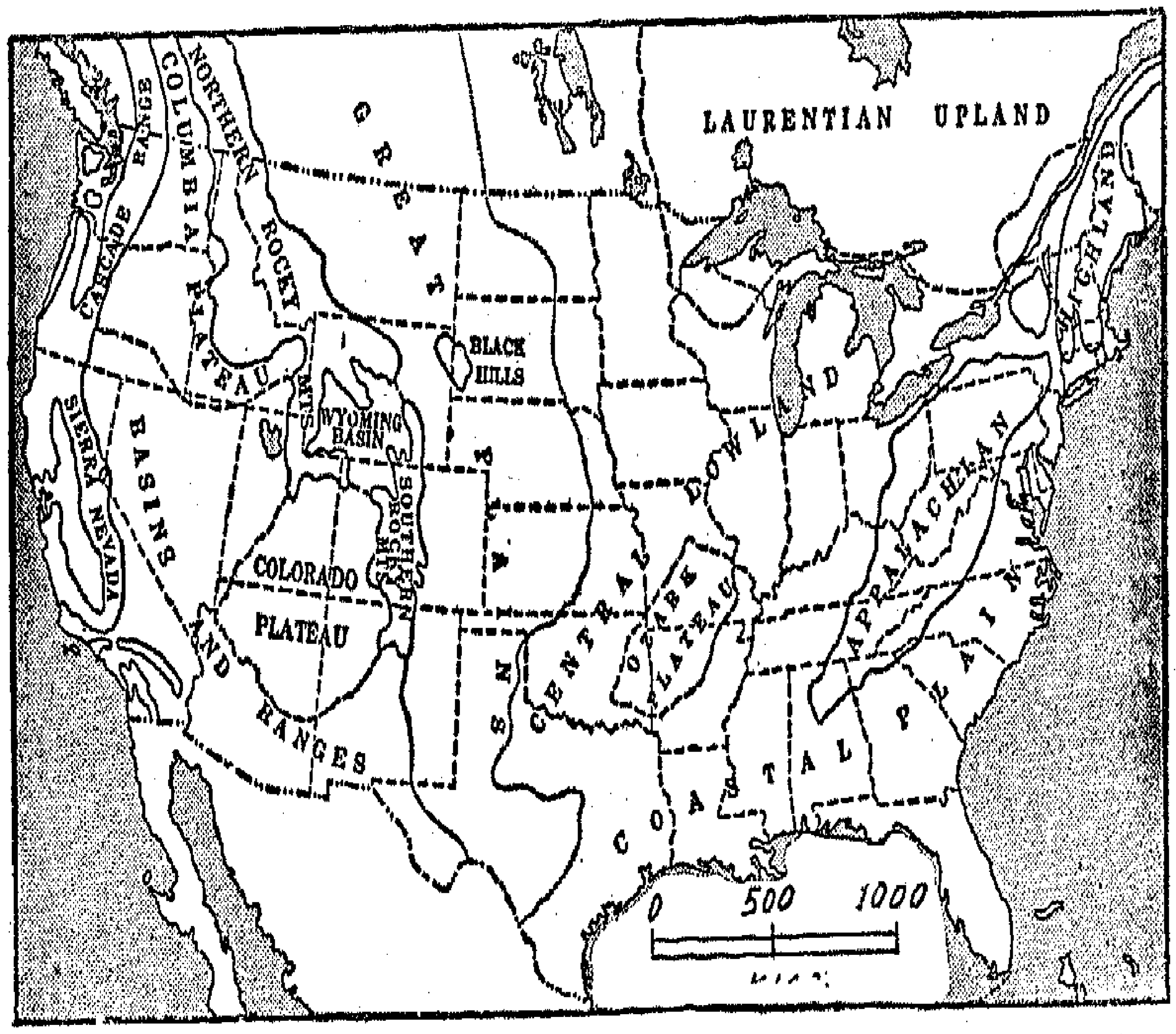
coastlands, and the Alleghany, Cumberland plateaus, to the west of the Blue Ridge.

(3) The *central lowlands* drained south by the Mississippi–Missouri river system. It is a vast river plain.



Map 10 : U. S. A.—Physical Divisions

There is a small plateau, called the *Ozark* plateau, that lies to the west of the Mississippi river.

(4) To the west of the central lowlands there lies a foothill region with sloping upland plains. It is called the *Great Plains*. It is at a higher elevation than the central lowlands.

(5) The *Western Cordilleras* consists of the Rocky mountains near the Great plains, the Great Basin and plateau province to its west, and *Sierra Nevadas* to the west of the plateau province. The plateau province has many intermontane plateaus, the most important among them being the *Colorado* and *Columbia* plateaus and *Wyoming*. The whole area is on an average elevation of 2000 to 5000 m. The area has many dead volcanoes.

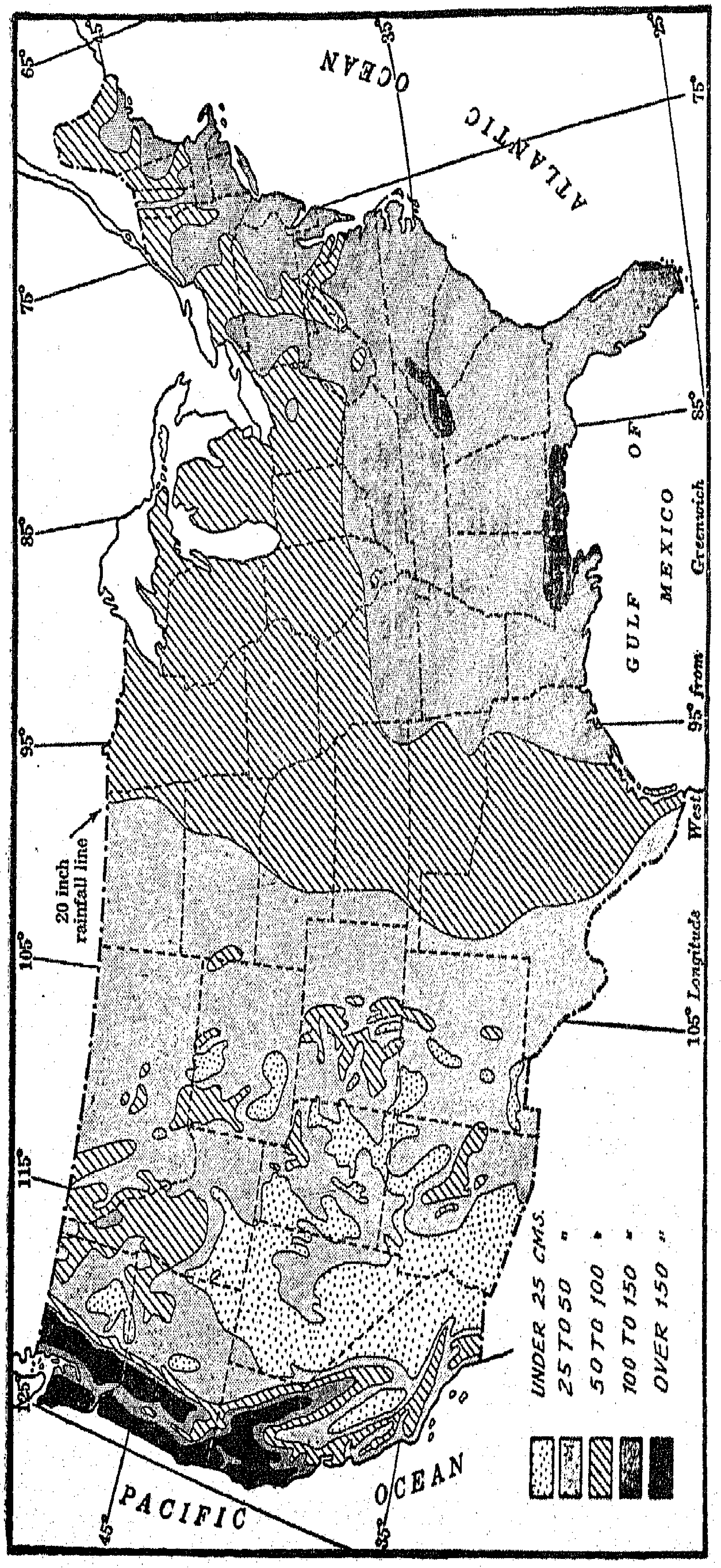
(6) Lastly, along the west coast, there are narrow *Pacific coast lowlands* backed by the *coastal ranges*.

The *Mississippi* with its tributaries *Missouri*, *Ohio*, *Tennessee*, *Arkansas* and *Red* rivers flowing south through the central lowlands is the main river system of the U. S. A. It is a deep perennial waterway useful to the people for river transport. The system has formed an extensive alluvial plain. It is also used for irrigation and hydel power. The *St. Lawrence* is another large river flowing east into the Atlantic. It is more useful to Canada than to the U. S. though the U. S. ships make use of the St. Lawrence seaway. The *Columbia* and its tributary *Snake* river, the *Sacramento* and *San Joaquin* rivers of California and the *Colorado* river are the only rivers flowing west into the Pacific. Many small rivers like the *Delaware*, *Susquehanna*, *Potomac* and *James* flow east through the Blue Ridge and empty into the Atlantic. These rivers have developed waterfalls where they descend from the Blue Ridge. There is a line of waterfalls called the *Fall line* at the foot of the Appalachians where electricity is generated.

The five *Great Lakes* of the U.S.A. on the northern boundary are large, deep fresh water lakes used for inland navigation. They freeze during winter. In the plateau and basin province of the interior, there are large salt lakes like the *Great Salt Lake*. They form inland drainage basins.

(ii) Climate and Vegetation

The United States, on account of its vast size and variety of relief features has a variety of climates. It



Map 11 : Annual Rainfall Distribution in the U. S. A.

lies in subtropical and temperate climatic regions. The southern parts have a subtropical climate, with warm summers and mild winters while northwards, temperatures fall. The summers are mild, while winters are cool. Along the northern borders, winter snowfall is common Inland the climate is continental. In the Western Cordilleras and the intermontane plateaus, the climate is severe and extreme continental with warm to hot summers and cold, snowy winters.

The northwest and west coast highlands—the Coastal Ranges and Sierra Nevadas—receive heavy rains, more than 150 cms.—all the year, but with a greater fall in winter. Central Appalachians and the Mississippi delta also receive heavy rains, but mainly in summer. S. E. United States receive moderately heavy summer rains while the central lowlands and north-east coast receive light rains in spring or autumn. The rainfall decreases westwards from the Appalachians and the driest desert zone occurs in the southern plateau province—Colorado, Utah, Arizona and Nevada are almost hill deserts. California in the Pacific southwest coast has a Mediterranean climate with warm dry summers and the mild wet summers, while Florida in the southeast has a sunny subtropical climate.

Before America was colonised, it was extensively forested. Most forests, especially in the lowlands and lower hill slopes of the Appalachians have been negligently destroyed in the past resulting in loss of national wealth. Now, the U.S A. government protects and scientifically manages the forests of the country.

Nearly a quarter of the land area is under forests. Most of the forests are found in the Appalachians, the New England States in northeast U. S. A., the Rockies, the Sierra Nevadas and the Pacific Coastal Ranges. Subtropical forests are found in the southern parts,

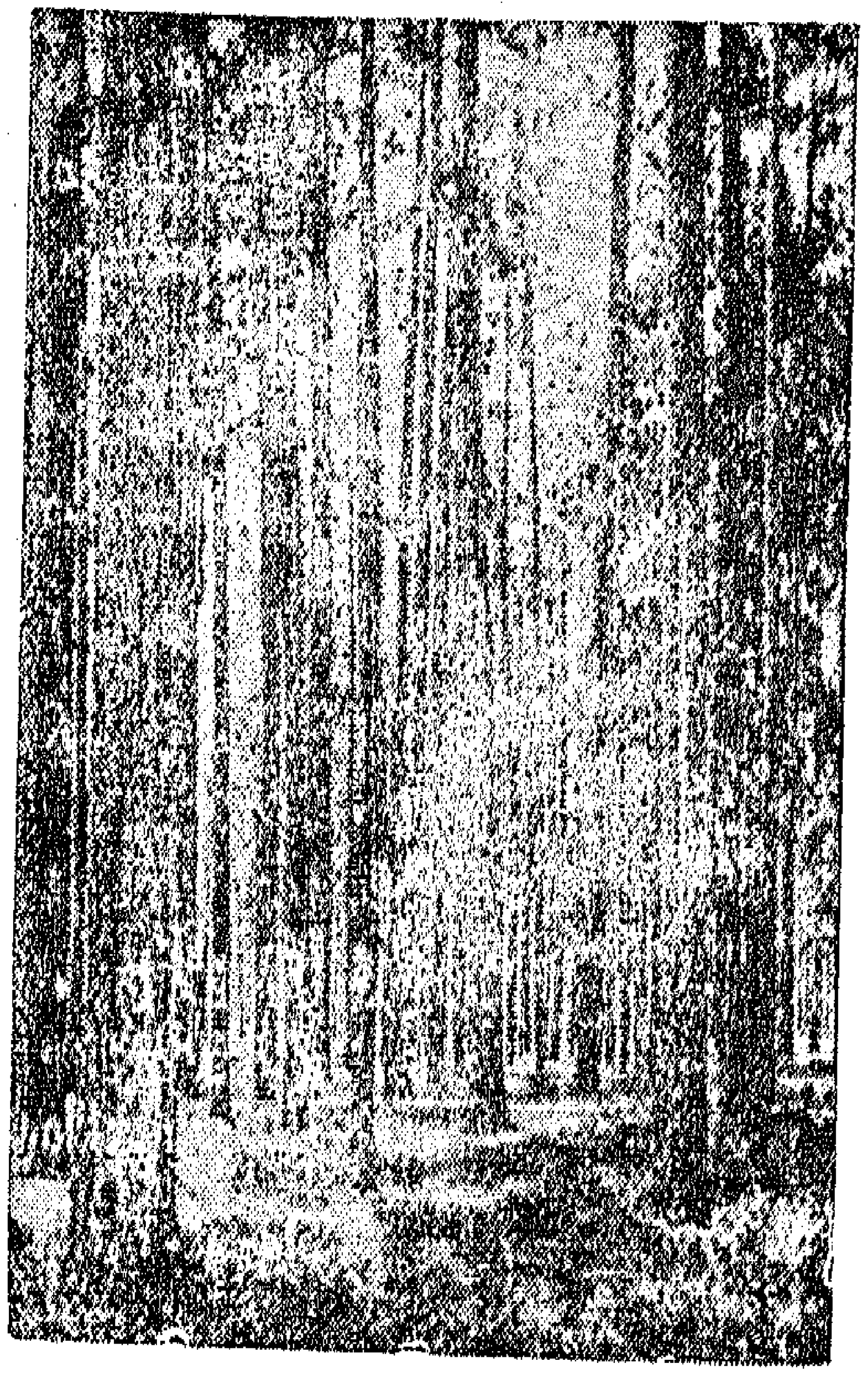
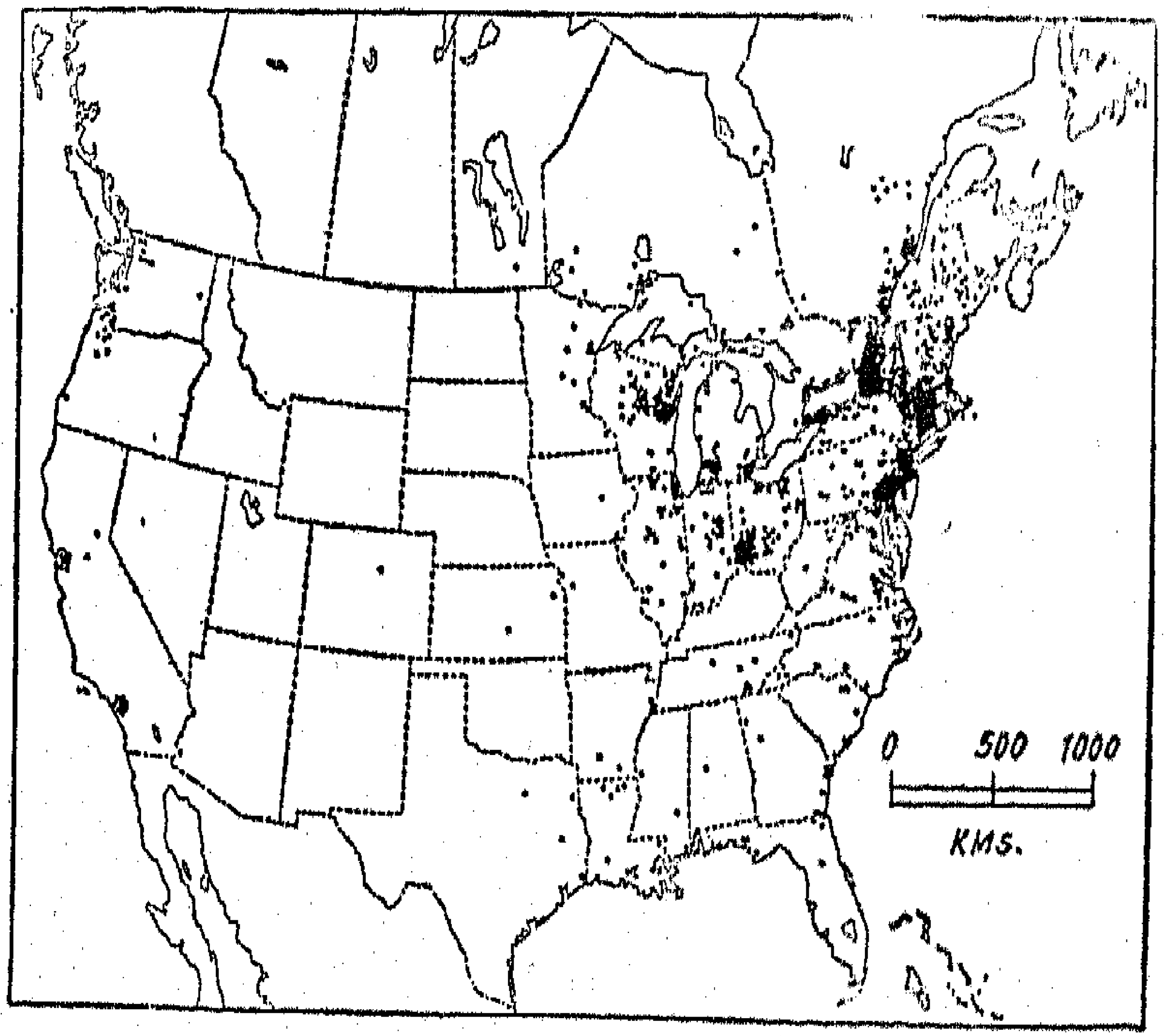


Fig. 4 : A Pine forest in the Appalachians



Map 12 : Distribution of Paper and Wood-pulp Mills in the U.S.A. Note that they are mainly concentrated in the north-east.

while temperate hardwoods are found in more northerly rainy areas. In the higher elevations of the northern Rockies and plateaus coniferous softwood forests are found. The main timber varieties are douglas fir, yellow pine, seoquias, cypress, chestnut, maple, oak and others. Nearly two-fifths of the timber output of the U S.A. consists of soft woods, and a fifth of temperate hardwoods. New England and Northwest Pacific States have industries based upon forest timber and hydel power such, as wood-pulp, paper, newsprint, matches, cellulose, rayon, plastics and others.

Most of the wild animal life of the U.S.A has been depleted by hunting. At present, wild animal sanctuarise are found in national parks in the western states and New England

(iii) Fishery Resources

Commercial sea-fishing is well developed in the sea coasts all around, in the large rivers and in the lakes. Fishing is also a pastime with the Americans and a lot of fish is caught in rivers and lakes in this fashion. Huge mechanised trawlers and fishing nets and equipments are used in bank fishing in the open ocean. Subtropical fish are caught in the Gulf of Mexico, Caribbean Sea, and seas around California. Shrimps, lobsters, crabs and oysters are the most important. Some of the fish products are used in paint and varnish industries

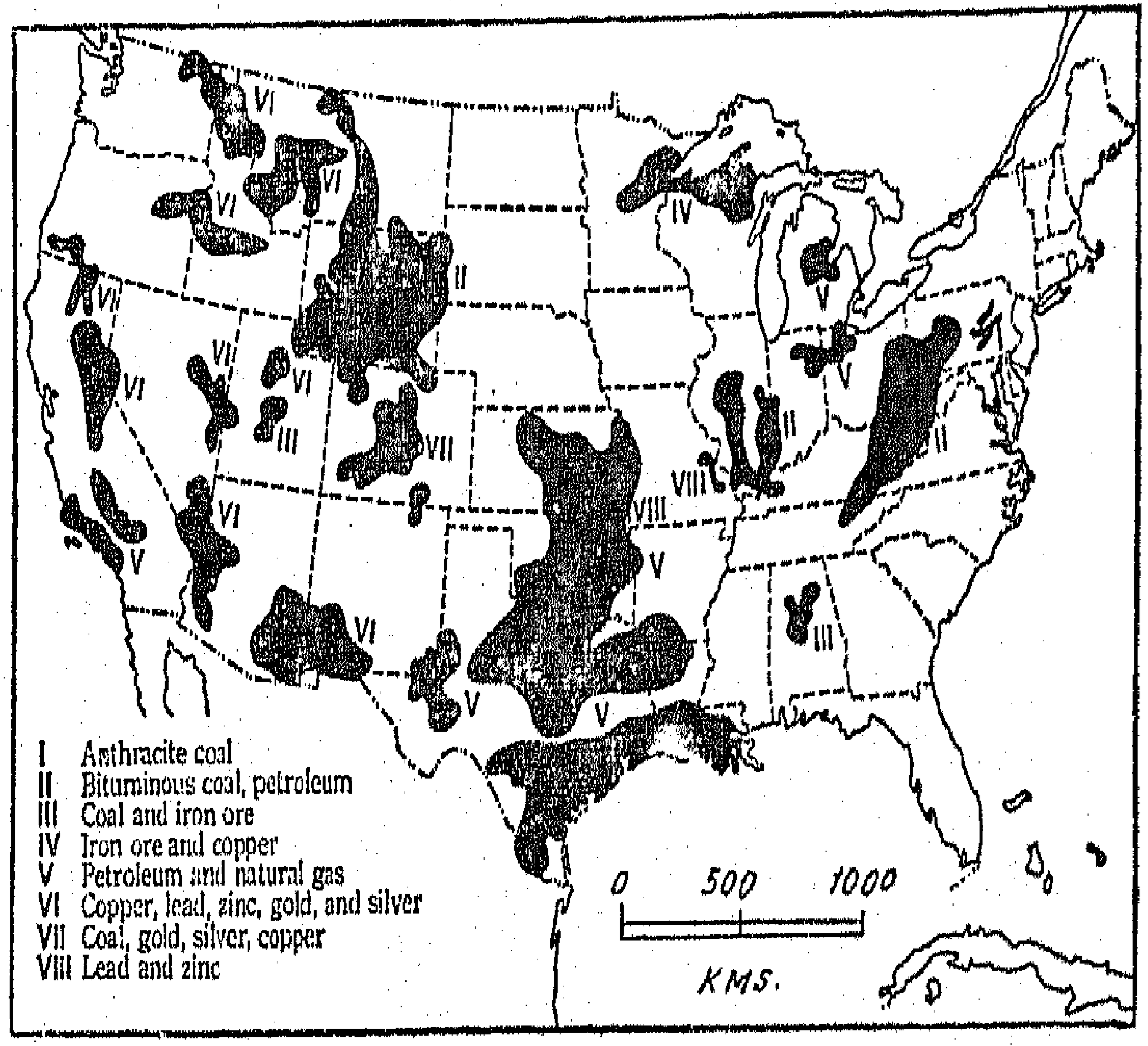
In New England coast and N. W. Pacific coast, bank fishing is done to catch large sea-fishes like cod, halibut, mackerel, bonito, herring, tuna and others. Salmon fish are caught in rivers as they swim into the rivers from the sea for spawning. Fishing is done on a large scale in the Great Lakes as well as in the Mississippi river system.

The U.S.A imports large quantities of fresh and canned fish from Canada, West Indies, Peru in South America and Japan. N.W. Pacific coast of the U.S.A. however exports canned salmon fish.

(iv) Minerals

The United States has a very rich variety of minerals. High grade coal is mined mainly in the *Alleghany plateau*, Blue Ridge, central and southern

Appalachians. *Pittsburg,* *Connesville* and *Birmingham* are large coal mining centres. Coal is also mined in Peninsular Michigan, in small and scattered fields in the Rockies and N. W. Pacific states. Mineral oil is drilled in Pennsylvania in north Appalachians, Michigan, Ohio and Indiana states, Gulf coast states of Louisiana and Texas, and the Los Angeles area of California. There are about 350 oil-refineries in the U.S.A. that refine the crude oil. Iron ore is quarried mainly in the Lake Superior region in the state of Minnesota. The *Mesabi* is the main hill range where iron is quarried. Iron is also mined in the south Appalachians (Red mountain region), Adrindock mountains of the England and in the Rockies. Gold is mined in the Rocky mountain states of Nevada, Idaho, Montana and Colorado as well as in California. Copper, lead, zinc, tin are also mined mainly in the states of the Western Cordilleras. Phosphates and potash are obtained in the states of Florida and Louisiana along the coast


I Anthracite coal
II Bituminous coal, petroleum
III Coal and iron ore
IV Iron ore and copper
V Petroleum and natural gas
VI Copper, lead, zinc, gold, and silver
VII Coal, gold, silver, copper
VIII Lead and zinc
0 500 1000
KMS.

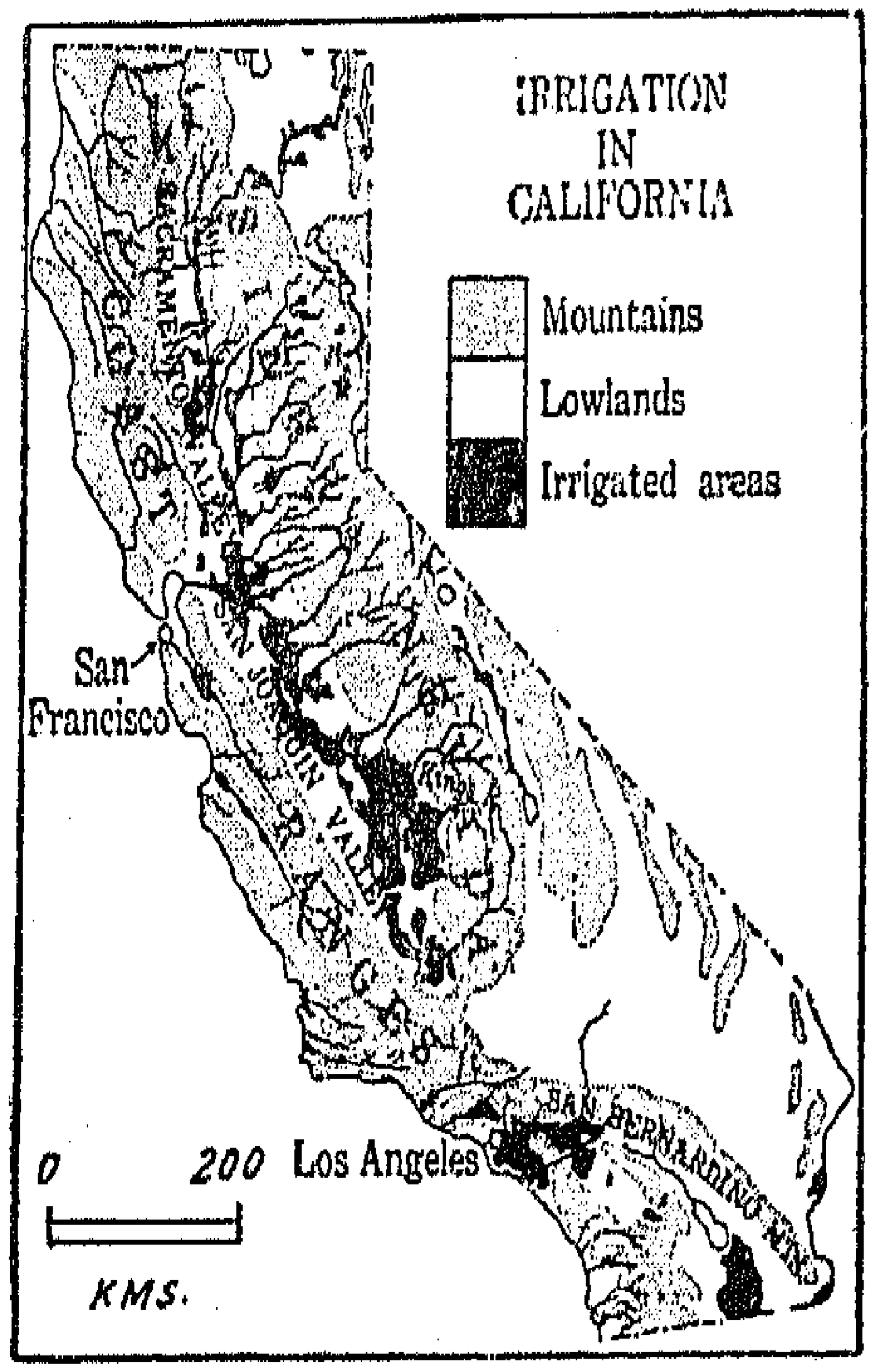
Map 13 : The U.S.A.—Mineral Producing Areas

of Gulf of Mexico and sulphur in the plateau states of the west. Natural gas is obtained together with petroleum, particularly in the southern Gulf States. Thus, on the whole, the U.S.A. has a great variety of minerals and the country leads in the production of coal, oil and iron ore.

(v) Agriculture and Livestock Farming

In the United States, nearly 40 percent of the land is under grazing land and pastures. About a quarter of the land is under forests and a fifth of the land area is under crops. Look at the Map No. 15 From that, you will see that pasture lands are mainly found in the hilly west, namely in the dry and semidry plateaus enclosed within the Western Cordilleras, and in the Great Plains. They are also found in the areas around the Great Lakes and in the northeastern parts (the New England States.). In the drier and more hilly western plateaus, wool and mutton sheep are kept in large number, while in the Great Plains, cattle and beef are kept in large numbers. Dairy cattle and poultry are kept in large numbers in the wetter Great Lakes region and New England 'hay and dairy' belt. In the west, cattle and sheep ranches are very large; thousands of animals are kept in each ranch. When the animals are ready, they are transported for fattening and slaughtering to the Great Lakes region and Mississippi plains.

Because the U. S. A. has vast plains under different climatic conditions, a variety of crops are grown. They are mostly cultivated with the help of huge farm machinery, because human labour is costly and difficult to get. The farms are also very large. Most crops are cultivated rainfed, with the use of fertilisers and manures. However, in the dry valleys of California as well as in the mountain states of the interior, cultivation is impossible without irrigation. Huge dams have been constructed over the Colorado river and Snake river—the *Hoover Dam* and the *Grand Coulee Dam* respectively — to irrigate large farmlands in California, Oregon, Washington and other western states. The *Tennessee valley irrigation project* irrigates large areas in the southern states.

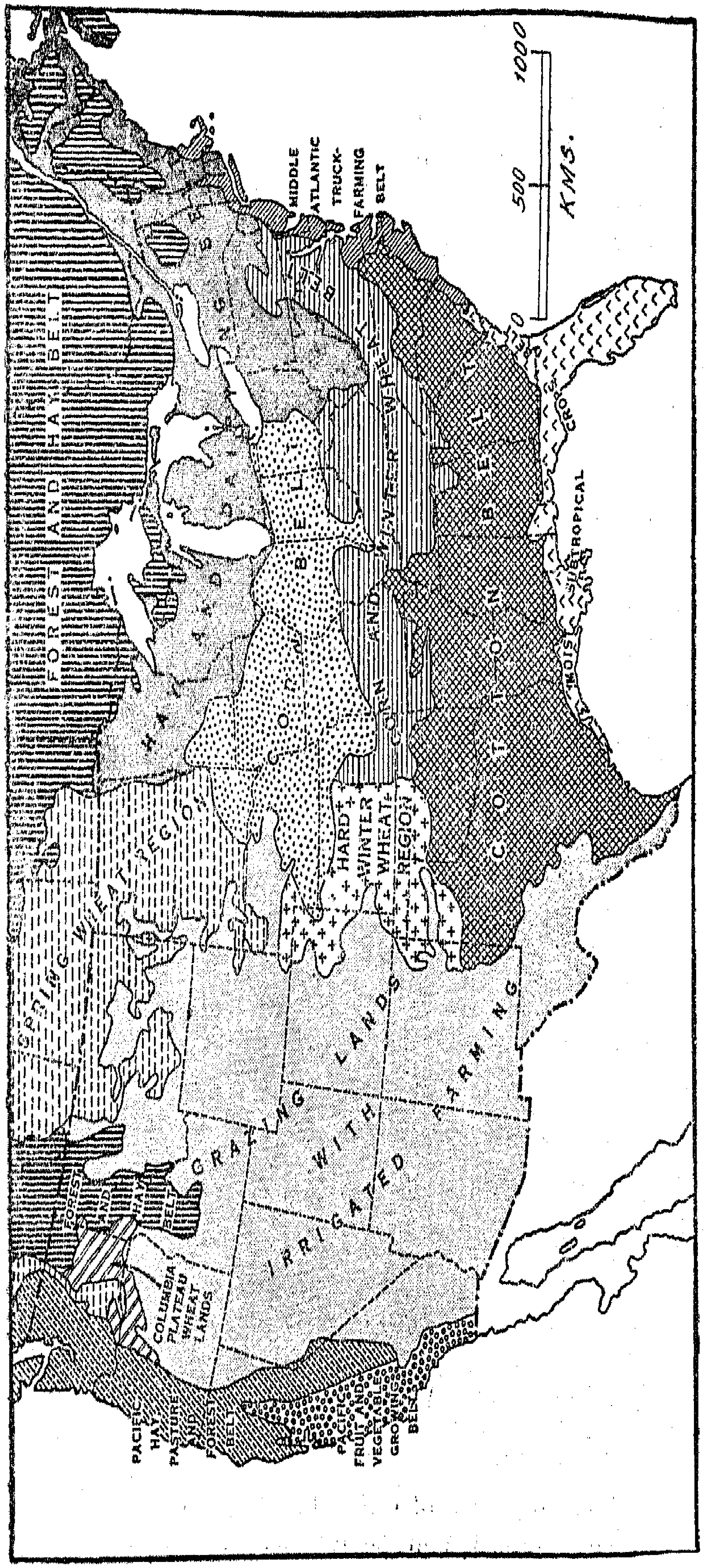


Map 14 : Irrigated Areas in California

Temperatures fall northwards while rainfall decreases westwards in the U. S. A. Therefore, length of the growing season for crops falls northwards. In the U. S. A. the following farm-belts can be recognised :

(a) A rice and sugarcane belt is found along the Gulf of Mexico coast, in the Mississippi delta. Winter vegetables and subtropical fruits are grown in Florida, and carried by trucks in highways to the northern cities.

(b) The main cotton belt is found to the north of this rice-sugarcane area, in the lower Mississippi, Arkansas, Red river and Tennessee valleys and Texas. Here, with the help of negro labour, long and medium staple cotton of the sea-island and upland varieties is grown in plenty. Corn or maize is grown for food amongst negroes.


FOREST AND HAY BELT
MIDDLE ATLANTIC TRUCK-FARMING BELT
HAY AND DAIRY BELT
CORN BELT
CORN AND WINTER WHEAT
COTTON BELT
SUBTROPICAL CROPS
SPRING WHEAT REGION
HARD WINTER WHEAT REGION
GRAZING LANDS WITH IRRIGATED FARMING
COLUMBIA PLATEAU WHEAT LANDS
FOREST AND HAY
HAY BELT
PACIFIC HAY PASTURE AND FOREST BELT
PACIFIC FRUITS AND VEGETABLES GROWING BELT
0
500
1000
KMS.

Map. 15 : Agricultural Regions of the U. S. A.

(c) To the north of the cotton belt is a region which grows maize in summer and hard wheat in winter in plenty Here, the corn is grown not for human food, but to fatten the animals. The corn belt is the main region of swine (pigs) and poultry. When the corn is ready for harvest, swine are let into the fields to feed on the corn and fatten. Beef cattle and mutton sheep are also brought here from the west to fatten.

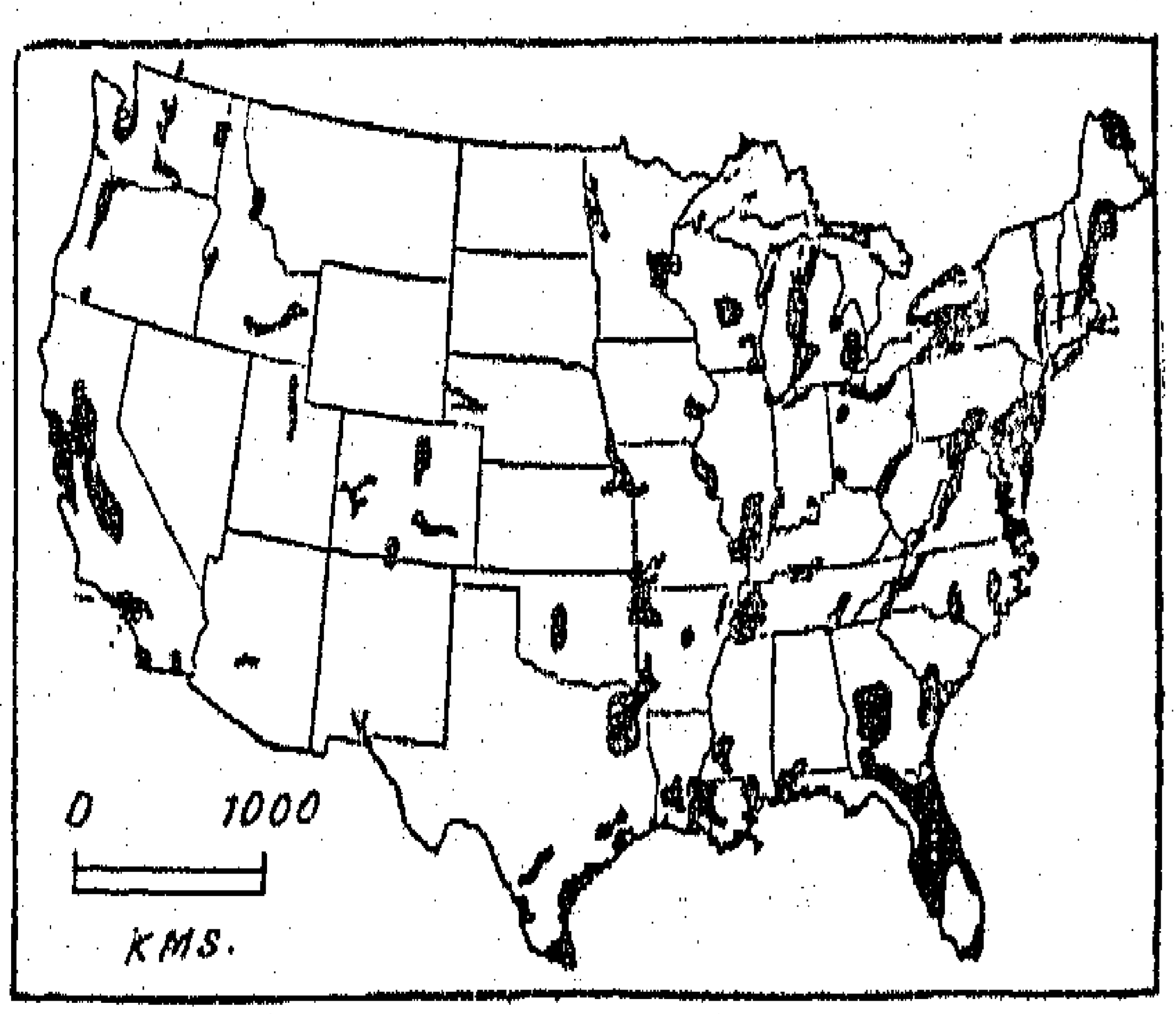
(d) Between the corn and cotton belts lies a narrow 'general farming' belt in which tobacco is the main crop grown. Virginia, Carolinas and Alabama are the main states that grow tobacco.

(e) To the north of the corn belt is the 'hay and dairy' cattle belt. Here, summer vegetables and temperate fruits like apples, cherries and strawberries are grown in valleys.

(f) To the west of the hay and dairy belt, in the prairies adjoining Canada is the spring wheat belt. Here, in winter, no crop grows because of snowfall.

(g) California in west coast has mainly irrigated farming, with rice, wheat, cotton, fruits and vegetables as the main crops.

(h) In the Atlantic coastal lowlands, vegetables like potatoes, tomatoes, cabbage, turnip and raddish are the main crops. Tobacco is also grown.



Map 16 : Areas of Horticulture in the U. S. A. They are mainly in the East and in California.

Horticulture or growing of fruits is important in most of the eastern states of the U.S.A. California, Florida, Atlantic States and New England are the main horticultural states of the U.S.A. Citrus, lemon, grapes, oranges and apples are the fruits grown in the different parts of the States.

(vi) Power and Industries

In the U.S.A., power to run machinery and factories is obtained from coal, oil, gas, uranium and water-power. Water power is got from the *Niagara falls* on the border between Canada and the U.S.A., from the *St. Anthony falls* near Minneapolis, the dams of the Tennessee valley multipurpose project and from the huge dams in the west.

A variety of industries have developed in the U.S.A. The following are the main industrial areas:

1. New England : Cotton and woollen textiles, jewellery, electrical instruments, knitware and lacework, paper and woodpulp, ship-bulding. *Boston*, *Albany*, *Syracuse* are the industrial centres.

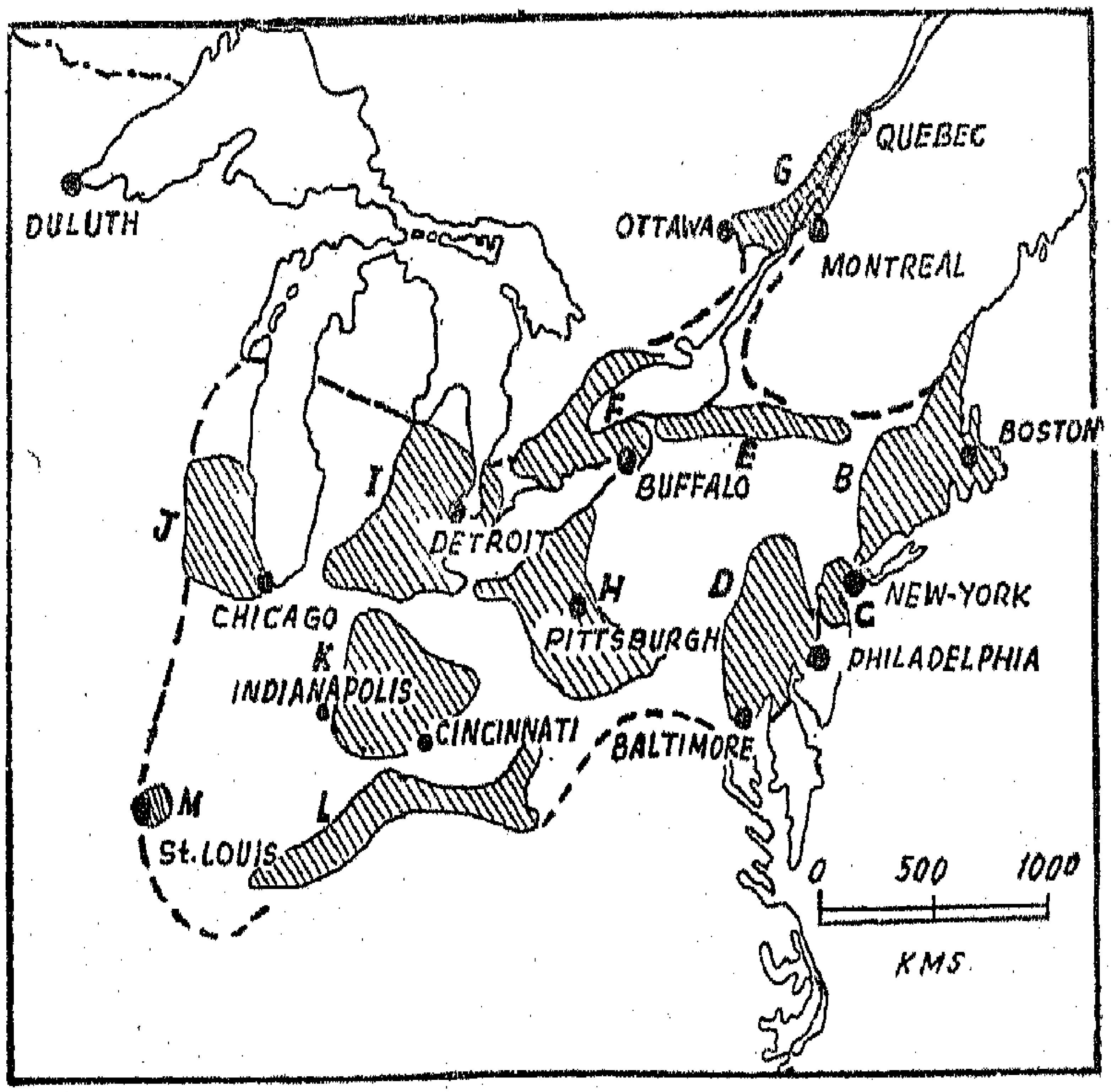
2. Atlantic coast : Printing, banking, garments, fruit canning, iron and steel, silk, machinery, sugar and oil refining, ship-building, aeroplane engines. *New York*, *New Jersey*, *Philadelephia and Baltimore* are the main industrial cities.

3. The Lakes region has a wide range of industries like iron and steel, machinery, tools, automobiles, locomotives, aeroplane assembling, electrical industries and chemicals. *Chicago*, *Cleveland*, *Detroit*, *Buffalo*, *Rochester and Akron* are the main centres.

4 North Appalachians has mainly steel and machinery plants. *Pittsburg* is the main centre.

5. South Appalachians has steel and aluminium plants. *Birmingham* is the centre.

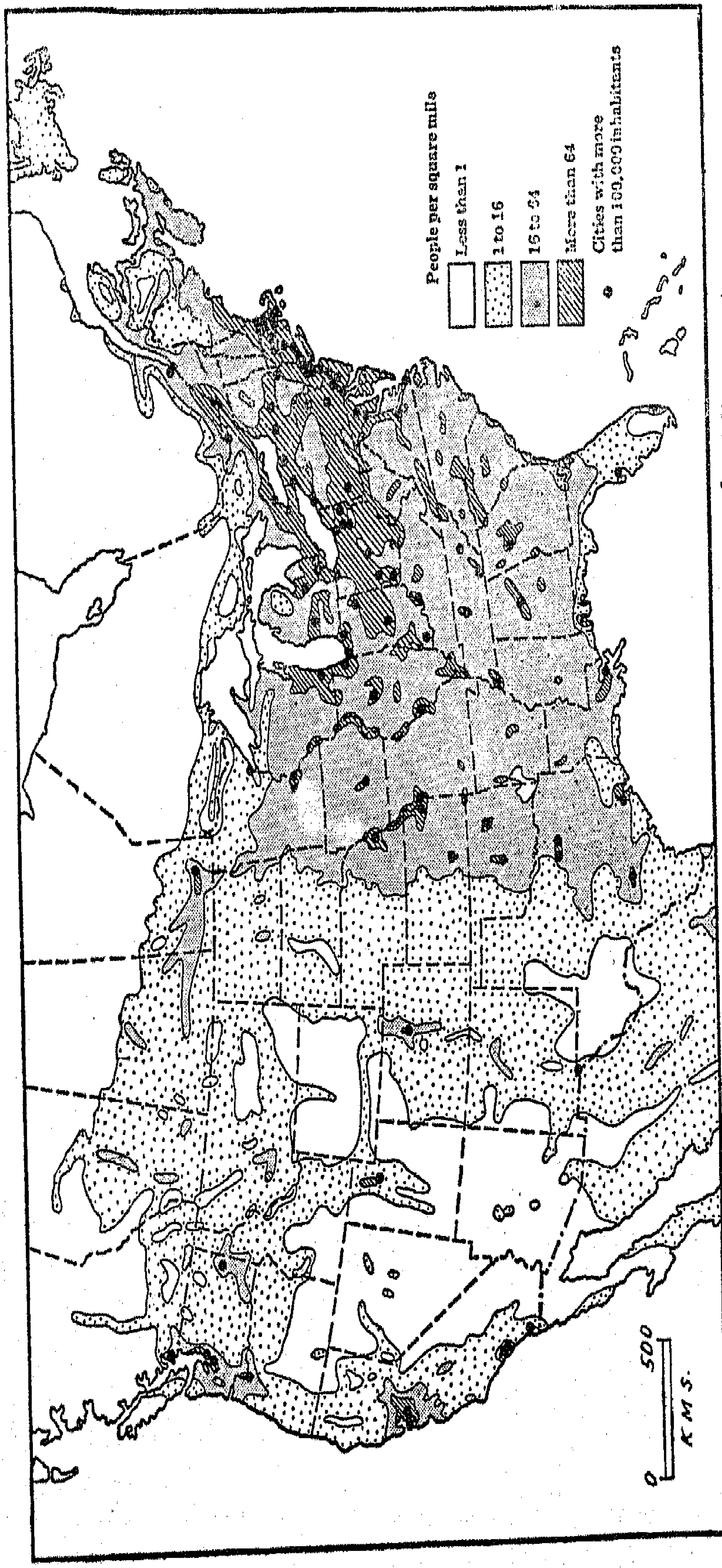
6. In the Central lowlands, flour milling, sugar refining, cotton textiles, tobacco industries, oil refining and meat packing are the main industries. *Kansas, St. Paul, Minneapolis and Omaha* are large meat packing and flour mill towns. *Dallas, Houston, Atlanta city, Montgomery* are textile centres.



Map 17 : Manufacturing Regions of the U.S.A. and Canada.

7. In California, textiles, fruit canning and movie industry are found besides machinery and ship-building. *Los Angeles* and *San Francisco* are the main centres. *Hollywood* is a film centre. California with its fine beaches for bathing and excellent weather has tourist attractions. Fish canning is also important.

8. In the Rockies and plateaus, mining and metallurgy are the main industries.



Map. 18 : The United States—Population Distribution

(vii People and Towns

Nearly 190 million people live in the United States. Most of them live in the industrial 'Lakes cities,' and Atlantic coastal states. Most people live in large cities. The central lowlands, and the irrigated valleys of the west coast are moderately peopled. The Great plains and the mountain states are thinly peopled.

There are many large cities that have more than a million people living in them. *New York* is the largest city of the U. S. A. It is mainly built on an island at the mouth of the Hudson river. Manhattan, Jersey city and Long island are its parts. Because of limited space, it is a huge skyscraper city with most buildings having more than 40 storeys. It has a 1000 km. long coastline and a fine harbour. It handles nearly a third of the sea-trade of U. S. A. It has many industries like garments, printing, banking and ship-building. The Kennedy airport of New York is the biggest international airport.

About 60 kms. south of New York on the Delaware bay is the industrial city of *Philadelphia*, noted for ship-building, sugar and oil refineries and steel building. Close to Philadelphia is another port and ship-building centre, *Baltimore*. Further south is the capital city, **Washington,** on the Potomac river. The National museum, art gallery, the Capitol and Presidential Palace here are worth visiting. *Boston* to the north of New York is an old ship-building centre and fishing port. It is a centre noted for cotton and woollen textiles. *Miami city* in the southern Atlantic coast is mainly a tourist centre.

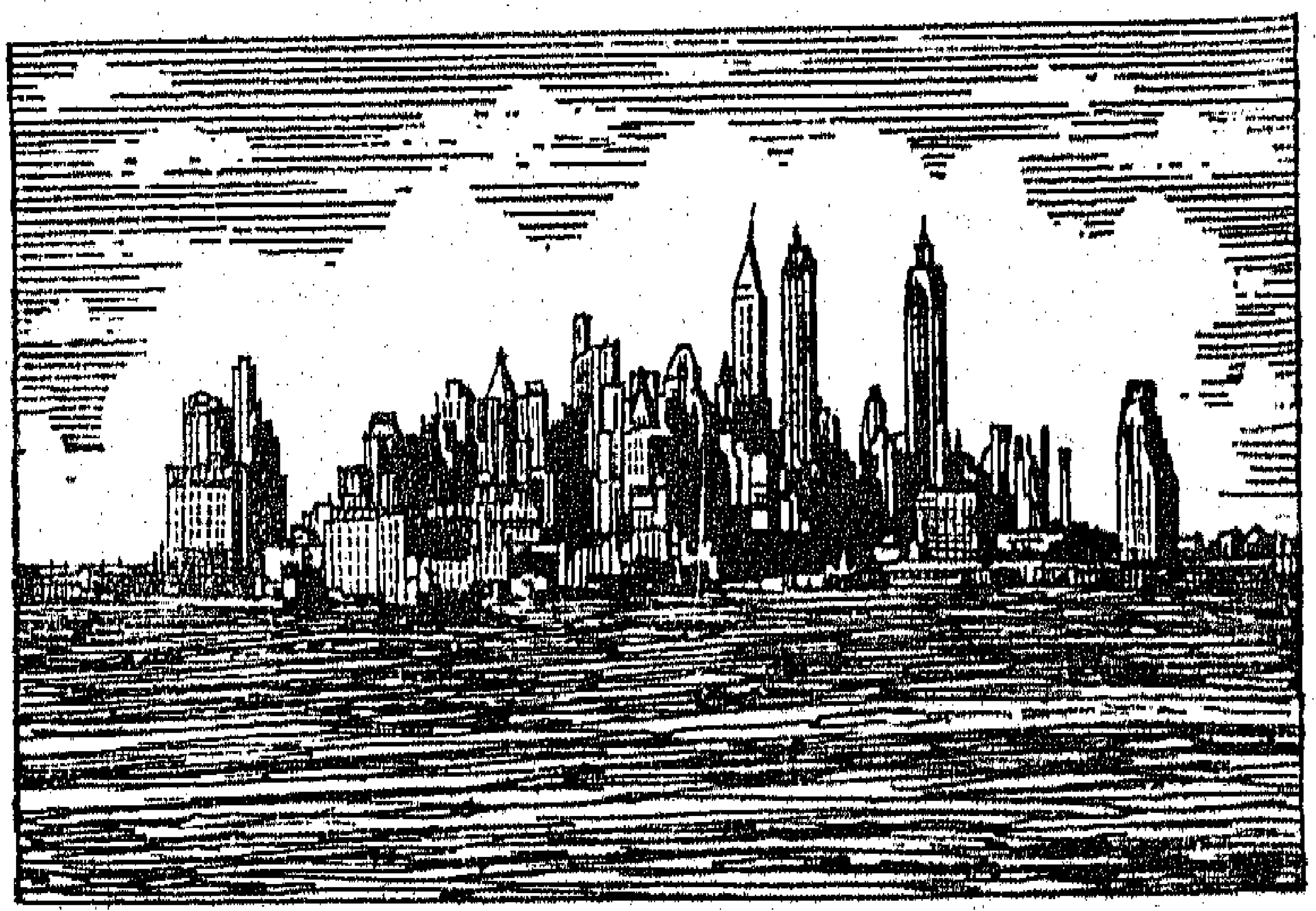
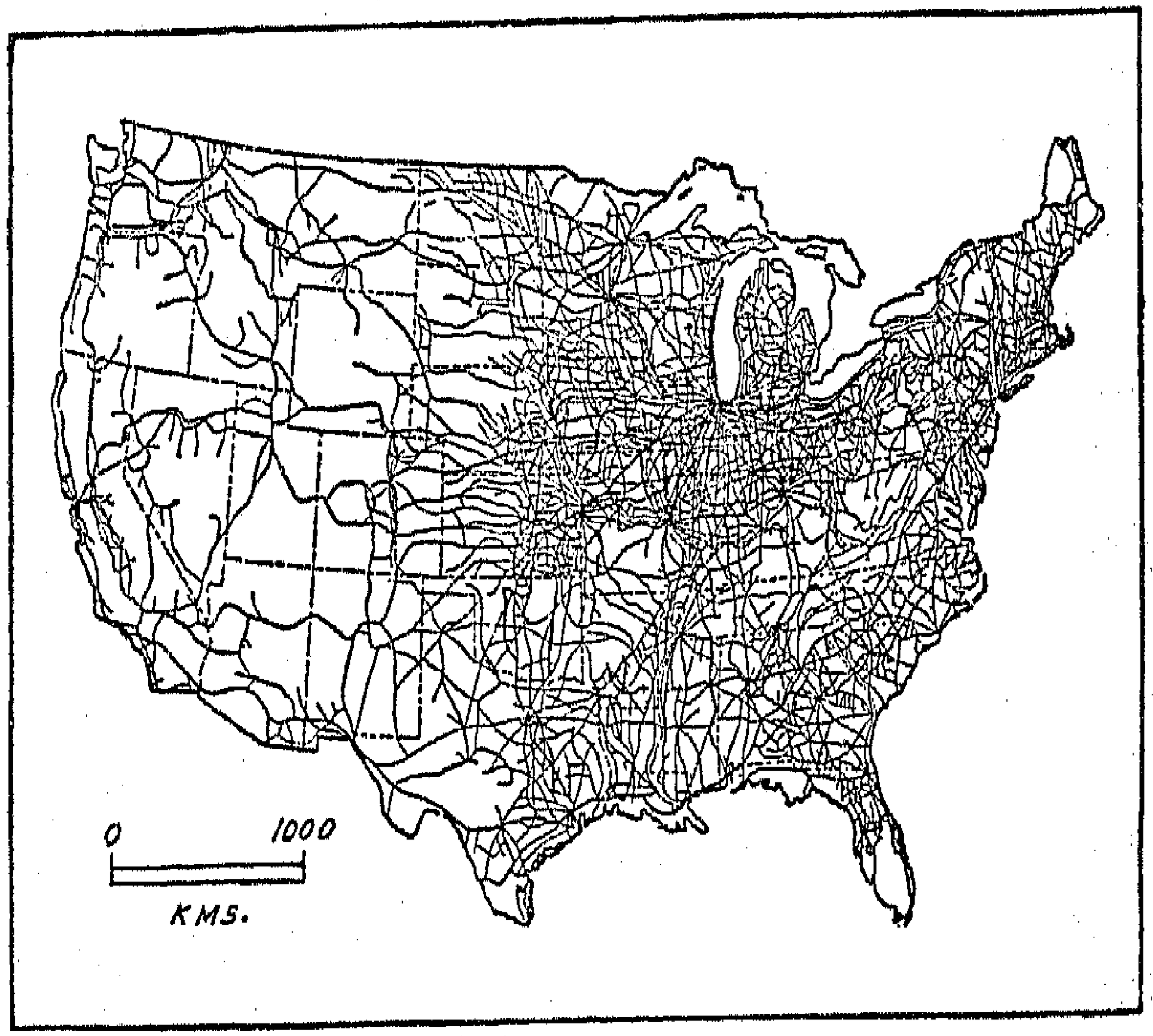


Fig 5 : Manhattan (New York) from the Sea. Note the skyscraper Buildings.

Chicago, the second largest city, is an inland centre. It is on the southern shore of Lake Michigan It is a huge railway terminal, lake port, airport and highway junction. Steel, farm implements and machinery, meat packing and flour milling are its main industries. *Detroit*, *Flint* and *Pontiac* all near lake Erie are automobile builders. *Cleveland*, *Buffalo* and *Rochester* are lake ports and industrial towns. *Pittsburg* is a large coal mining and steel centre. *Birmingham* in the south is also a steel centre. *San Francisco* on the Pacific coast, with its Golden Gate is a Pacific port and outlet for California. *Los Angeles* is another large port of California. *Seattle* is a large city in the northwest, where 'boeing' planes are assembled. *New Orleans* is a port in the Gulf coast. *Salt Lake City*, *Dallas*, *Atlanta City*, *Kansas*, *Minneapolis*, *St. Louis*, *Milwaukee* and *Cincinnati* are other large inland towns.

(viii) Communications

The United States is remarkably well served by railways, highways and airways. The United States has the maximum network of railways and fast highways in the world. The railway network is densest around the Great Lakes and in New England. It thins out southwards in the lowlands and is still thinner in the western states. Unlike in Canada, there are no transcontinental railways. Chicago is the biggest railway terminal. Airways also interconnect the cities and towns of the U. S. A.



Map 19 : Railway Network in the U. S. A.
See how railways are crowded in the N. E coastal region and around the Lakes Region.

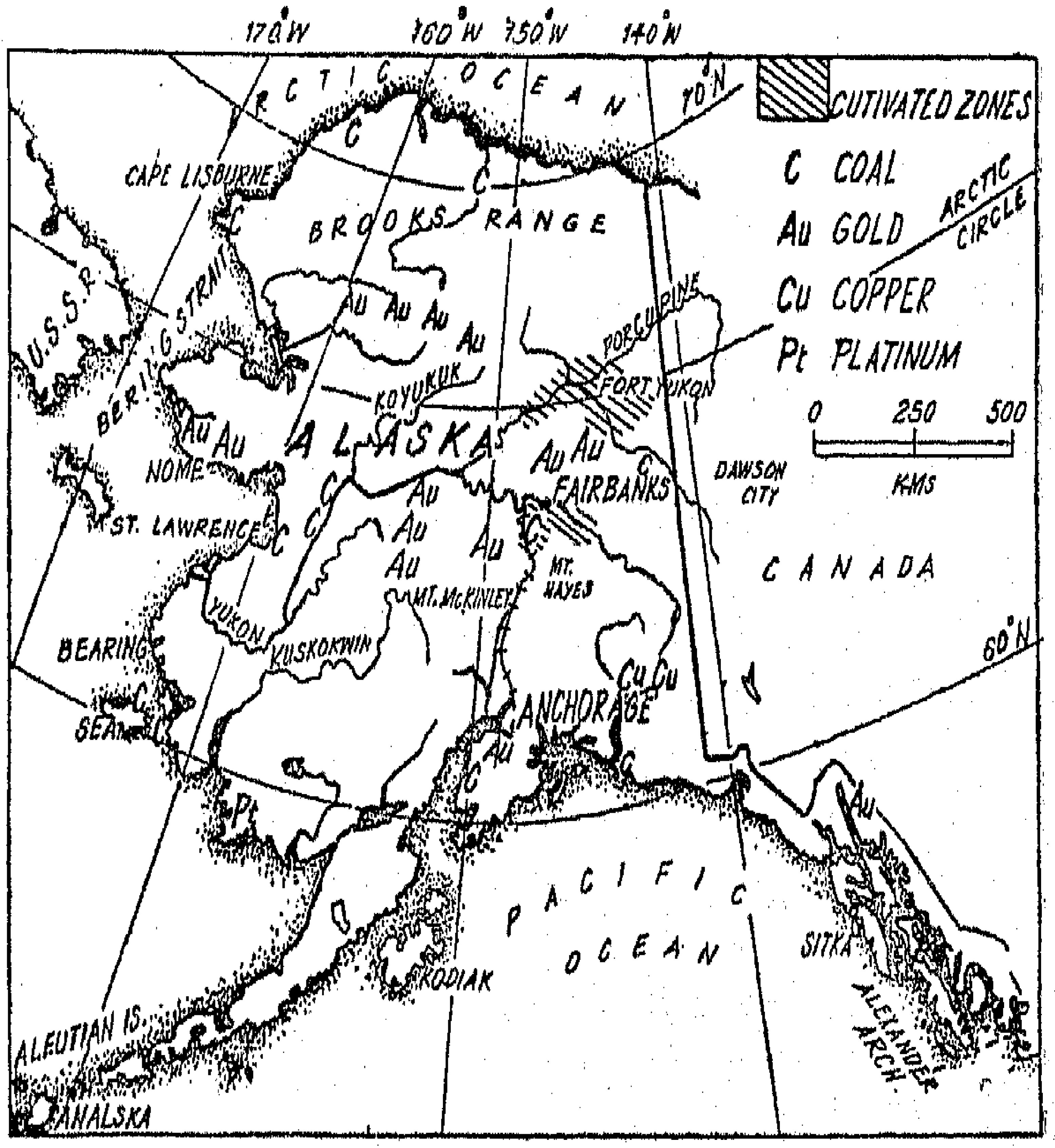
The Great Lakes interconnected by narrow shipping canals and the Mississippi river system, besides canals like the New York state barge canal and the Hudson waterway are also used to transport coal, minerals and grains. Many fine ports are also found in the Atlantic, Pacific, Gulf and Lakes shores. No other part of the world is so well interconnected on land, water and air as the U. S A. is. Almost every American family owns cars and fast road traffic is everywhere to be seen on the highways.

(ix) Foreign Trade

Because of its enormous wealth, the people of the United States are very rich. They have a high income and standard of living. The United States exports grains–wheat and rice–tobacco, canned fish and fruits, meat, coal, machinery and manufactures. Imports are mainly beverages, minerals and some raw materials. India imports wheat, cotton and manufactures from the U. S. A. and exports manganese, mica, coffee, tea, sugar and jute.

(x) Alaska

Alaska in the northwestern part of North America is one of the larger states of the U.S.A. that is not contiguous to the other states. It is connected by air and over sea with the mainland of the U. S. A It was formerly a part of Russia, but was sold to the U.S. Because it lies close to the North Pole, the climate is severe, and there are many living glaciers and huge snowfields. It is also hilly in the interior. Mt. Mckinley in Alaska is a volcanic peak. Earthquakes are also common in Alaska.



Map 20 : Alaska

The river *Yukon* flowing into the Bering sea is the main river of Alaska. In Alaska, practically nothing grows on account of a very cold climate. Coniferous forests are in plenty and timber is the main product. Gold has been discovered in the Yukon river valley and is mined at *Fairbanks* and *Nome*. Oil is also drilled. Salmon fishing is also important along the coasts of Alaska. **Juneau** is the capital of Alaska.

Alaska attracts a lot of tourists from the U.S.A. for winter sports.

Exercises

1. Answer the following:
   (a) Name the main physical divisions of the U.S.A.
   (b) Which parts of the U.S.A. are dry and why?
   (c) Where are the papermills of the U.S.A. found? Why?
   (d) Which are the main livestock rearing and fattening areas of the U.S.A.?
   (e) State the areas that produce the following in the U.S.A. —rice, oil, gold, steel, tobacco.
   (f) Where is the densest rail network found in the U.S.A.? Why?
   (g) Mention the exports of the U.S.A.
2. Fill in the blanks:
   (a) Lakes ——, ——, ——, ——, and —— are the five great lakes of the U.S.A.
   (b) The Hoover dam is on the river ——.
   (c) ——, the capital of the U.S.A., is on the banks of the river ——.
   (d) ——, the largest rail terminal of the U.S.A. is on the shores of the lake ——.
   (e) —— is the skyscraper city of the U.S.A.
3. Write short accounts of the following:
   (i) Horticulture and vegetable farming in the U.S.A.
   (ii) Flour mill centres of the U.S.A.
   (iii) The cities of the Atlantic coast of the U.S.A.
4. State the location and importance of the following cities of the U.S.A.
   Philadelphia, Minneapolis, Birmingham, Los Angeles.

Project Work

1. *Find the major 'million cities' of the U.S.A. Locate them on a map. Where do you find a concentration of them? Can you explain why?*
2. *Find from an atlas the mountain states of the U.S.A. Make a table enlisting their products.*
3. *Collect details of information and pictures of cattle and sheep ranches in the U.S.A.*
4. *Find from your teacher the difference in farming practices and crops of the Gulf coast of the U.S.A., California and the Corn belt.*

CHAPTER 4

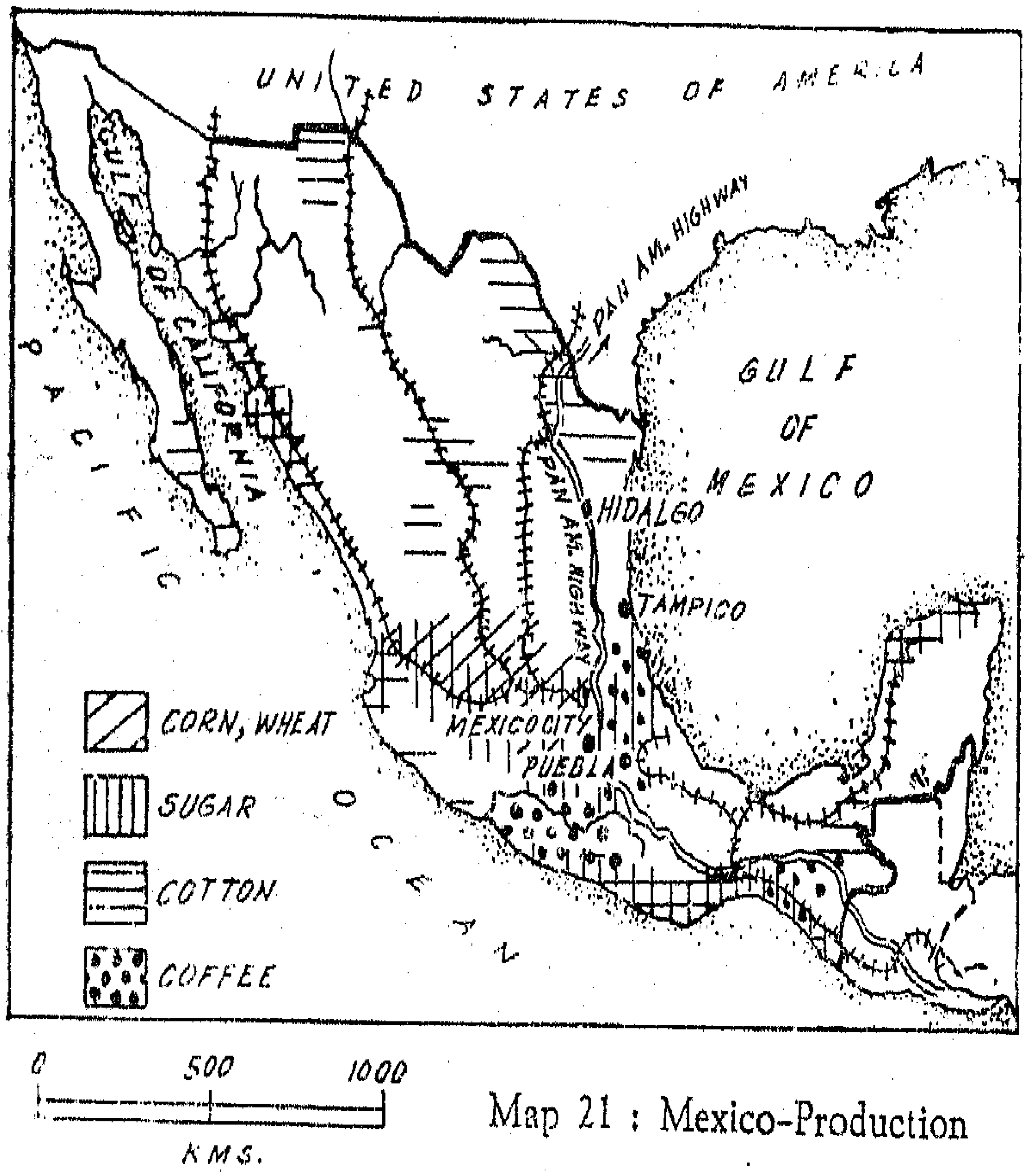
MEXICO

Mexico is a federal republic that lies south of the United States, across the Rio Grande river It consists of 29 states. Originally the home of the Aztec and Maya civilisations of the upland Indians, Mexico was colonised by the Spanish and became an independent republic in 1821. The Mexicans are of Spanish origin and speak Spanish.

Mexico lies between 15° N. and 32° N. latitudes. It is essentially a plateau lying at heights ranging between 1000 and 3000 m. On either side, the plateau is rimmed by high mountain ranges, that are called the western and eastern *Sierra Madres.* The *Madres* have numerous snowclad, dead and active volcanic peaks. From the crest of these ranges, the land descends down to narrow coastal lowlands, overlooking the Gulf of Mexico to the east and the Gulf of California to the west. In the extreme southern part of Mexico, there is a peninsular plateau, called *Yucatan,* jutting into the Gulf of Mexico northwards. Across the Gulf of California, to the west, lies the narrow finger-like desert peninsula of *lower California* with a hilly backbone.

The *Rio Grande* river, rising in the U.S. and joining the Gulf of Mexico runs along the northeastern boundary of Mexico. The *Santiago Lerma* and *Balsas* are two other large rivers flowing west into the Pacific Ocean.

Though Mexico lies in tropical latitudes, height moderates the climate. Over the plateau, it is cool, and in the coastal plains, it is hot. The Mexicans recognise three types of temperature belts: (i) *Tierra Caliente* or hot country below 1000 metres in the west and east coast lowlands and Yucatan; (ii) *Tierra Templada* between 1000 and 2000 m. with a warm temperate condition in the hill slopes and middle plateaus; and (iii) *Tierra Fria* above 2000 m. with a chilly climate in the high plateaus. The coastal ranges and the lowlands receive fairly heavy rains from the onshore trade winds, while the plateau lying in the rainshadow has a dry bracing climate. Lower California, and northwest Mexico (*Sonora*) are deserts, with scanty rains.



Map 21 : Mexico-Production

The southern and eastern highlands are covered by dense evergreen and semievergreen tropical forests. Mahogany, cedar and rosewood are important species. In higher elevations, subtropical trees appear. The plateau is a tropical grassland and of the savanna type, but most grasslands have been cleared. Collection of chicle gum, resins, tan barks and pitch are important forest activities in Mexico.

Mexico is well suited for farming. Half the land area is under farmlands, and nearly two thirds of the cultivated land is used to raise grains. Maize is the main crop of Mexico. Wheat is much less important. Of the cash-crops, sugarcane, cotton and tobacco are widely grown. In the coastal lowlands, coconuts, bananas and winter vegetables occupy large areas. The henequin or sisal, a fibre product, mainly comes from Mexico. Coffee plantations are found in the 'tierra templada' zone on the west coast.

Farming in Mexico is poor and traditional. Yields are generally low. About 6 million acres of farmlands are under irrigation; the rest are rainfed Recently, irrigation has been introduced in Lower California, where cotton is grown. Mexico government is improving the yields steadily by using fertilisers and increasing irrigation facilities. Still, Mexico has to import food to feed the people

Livestock are also kept. Cattle and poultry are in large number. Meat and hides are exported.

Mexico is very rich in minerals. Mexico produces nearly a fifth of the silver of the world. Gold, lead, zinc and uranium are also mined in the plateau. Most of the production of the metallic minerals comes from the northern plateau states, particularly *Chihuahua.* Antimony, copper, mercury and graphite are also mined. High grade coal is mined near *Sabinas,* also in the north. Near *Monterrey* and *Durango* in the plateau occur iron quarries, but they are not worked at present. Sulphur deposits are found in the central parts of the plateau. Oil is drilled together with natural gas) in the *Tampico* plains on the east coast, in the southern coastal lowlands as well as around Mexico City. There are 14 oil refineries in Mexico, refining the crude oil and exporting the petroleum products.

Industries are recent in Mexico. Mining is the major industry of Mexico Metal refineries, steel products, car assembling plants, machinery and rubber goods are the main products from the factories. Tourism is a fast growing industry in Mexico that attracts thousands of Americans. Movie production is also a large industry.

About 45 million people live in Mexico. Nearly half of them live in towns and cities. They live mainly along the east coast and the eastern and northern parts of the plateau. The western parts are thinly populated.

Mexico city is the federal capital. Around *Monterrey* and *Puebla* are found steel plants, metal industries and ceramics factories. *Tampico, Vera Cruz* and *Campeche* are important ports.

One major railway runs from El Paso in the U.S.A. southwards through the plateau upto Merida in Yucatan. Mexico city and Puebla lie on this line. Another railway runs along the east coast form the U.S.A. upto Tampico. The *Pan American highway* runs along the east coast to Mexico City and further south to Central American countries. Many new Mexican highways have also been built recently to promote tourism.

Mexican exports consist of metals and mineral ores, oil, coffee and timber products. The country imports food, textiles and machinery. The trade is mainly with the U. S. and west European countries.

Though a poor country at present, Mexico is fast developing agriculture and industries. With improvement in railways, highways and airways it is also becoming a tourist paradise with numerous ancient ruins.

Exercises

1. Which are the three major temperature zones of Mexico ?
2. Give a concise account of the mineral-wealth of Mexico.
3. Why does Mexico import food :
4. Give reasons for the following :
   (a) Though tropical in location, most of Mexico has a cool dry climate.
   (b) Mexico is a tourist paradise.
5. Match the following :
   List A : Sabinas, Chihuahua, Durango, Tampico.
   List B : Mineral oil, silver mines; coalfields, iron quarry.

Project Work

1. *Collect pictures, photographs and information regarding the ancient civilisations of Mexico. On a map of Mexico, locate the centres of ancient ruins,*
2. *Make a table as follows :*

Zone	*Products*	*Major towns*
Tierra Caliente		
Tierra Templada		
Tierra Fria		

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CHAPTER 5

CENTRAL AMERICA AND THE CARIBBEANS

(i) Central America

Central America is a narrow land-bridge connecting North and South America. It includes the republics of *Guatemala*, *El Salvador*, *British Honduras*, *Honduras*, *Nicaragua*, *Costa Rica* and *Panama*. It has a narrow mountainous backbone rising to heights over 4000 m., with steep slopes descending to the Pacific on the west and the Caribbean Sea on the east. The mountains have many active volcanoes, particularly in Guatemala and El Salvador. They have deposited rich volcanic soils.

Central America lies in tropics but yet has an eternal spring because of its high elevation. It rains heavily throughout the year; the eastern slopes and lowlands have more rains, being on the onshore side of the trade winds. Rich stands of mahogany forests cover the hill slopes. At the higher elevations, pine is also found.

Central America is rich in a variety of minerals, like gold, silver, copper, lead and iron ore. They are being mined ever since colonisation by the Spanish.

Farming and industry are not much developed in Central America. Coffee and banana are the two major crops and exports of Central American republics. Otherwise, foodcrops are grown to feed the people.

Columbus discovered Central America in 1502. Before that, the Mayan Indians lived in these countries. The Spanish colonised the area after the discovery by Columbus. Many tropical diseases like malaria and small-pox have checked both the Indian and European population in these countries. These countries have remained backward and undeveloped till recently. These countries have now joined together and in co-operation are building up a common market for coffee, banana and tropical timber. They are also alike in the spanish culture. Internal trade and industries are being built up Oil refineries, tyre and insecticide plants, paint and paper factories are being built jointly to improve the economic wealth and political stability of these countries.

About 14 million people live in the Central American republics. Most of them live in the west coast lowlands. The east coast is practically empty because of coastal jungles. The highlands are also thinly peopled. The *Pan American highway* interconnects these countries and links them with the U.S.A., Mexico and South America. Airways are also increasing in importance.

Let us see in brief about the main features of each of these republics.

Guatemala lies immediately to the south of Mexico. It extends from the Pacific to the Caribbean. Its central part has high mountain ranges. The country is full of volcanic peaks and beautiful lakes. The *Tajamulco* (4500 m.) is the highest peak in Cental America and it is a volcano. Earthquakes are frequent in Guatemala.

About 4 million people, mostly mayan Indians, live here and engage in farming in lowlands and valleys. Corn is the main crop. Coffee is grown in volcanic soils and exported. Banana, tobacco and rice are grown in east coast lowlands. **Guatemala City** is the capital.

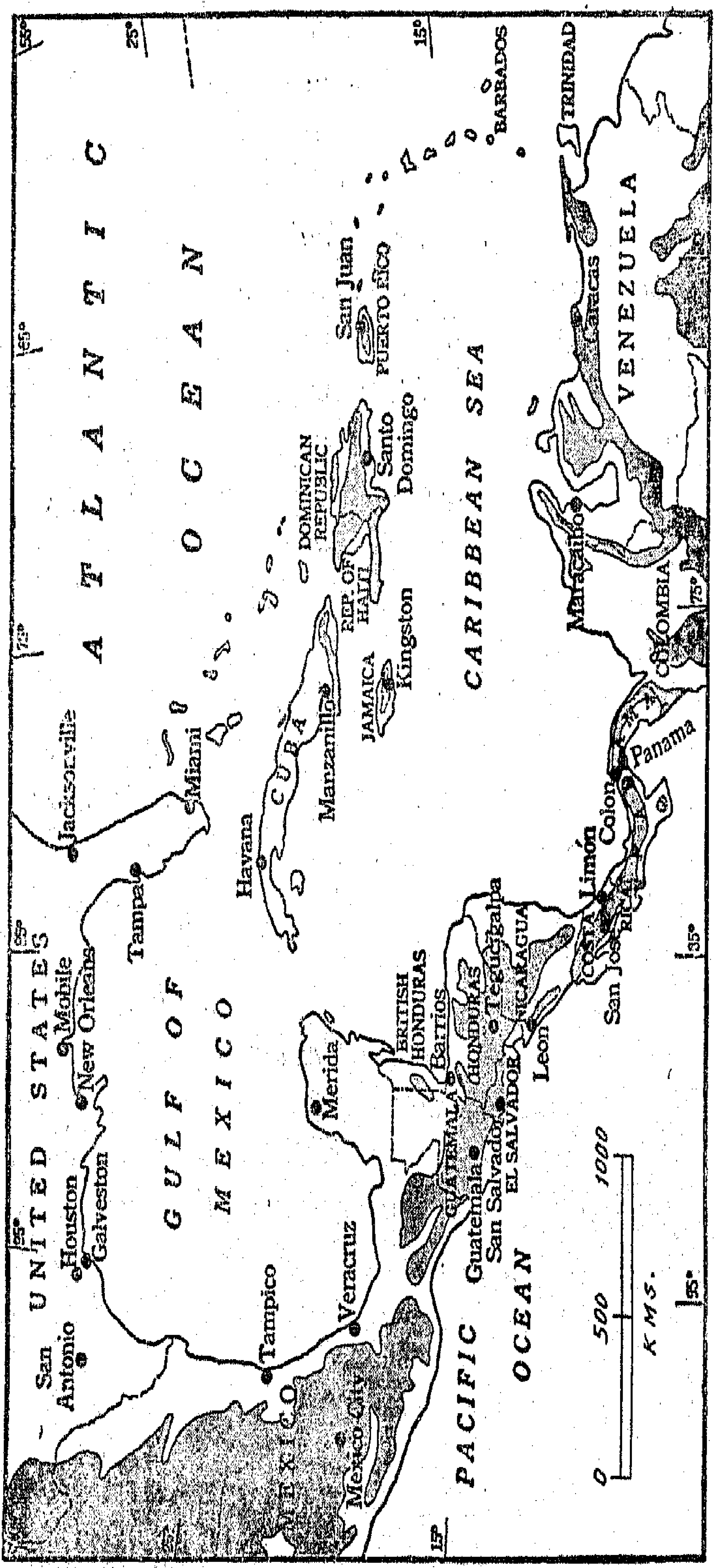
British Honduras is mostly covered by forests; lumbering is the main occupation. Mahogany is the main product, though collection of chicle gum is also important. Citrus fruits are grown in foothill slopes. About 1 lakh people of british descent live in this small british colony. **Belize** is the capital and port.

Honduras, to the south and east of Guatemala, is also mostly undeveloped and backward. Along the hot humid east coast, 'mosquito Indians' live in villages and raise corn beans and rice. Bananas, surgarcane, tobacco, cocoa and coffee are steadily growing in importance. About 2 million people live in Honduras. **Tegucigalpa** is the capital, and *San Padro Sula* another large town.

El Salvador is a small Pacific coast state lying between Guatemala and Honduras. It is the most crowded state in Central America with 3 million people. Cotton, sisal and sugarcane are grown in the wet lowlands, while in the interior plateau, coffee is the main crop planted on slopes with rich volcanic soils. Coffee is the main revenue earner for the country and accounts for 88% of the exports. Small factories produce steel, textiles and sisal bags. Gold, silver and lead are mined in small quantities. El. Salvador has too many people living in a small area. **San Salvador** is the capital. *Santa Ana* is another large town.

Nicaragua is the largest Central American republic and most thinly peopled with 1·7 million people. The country is full of volcanoes. There are many large lakes, *Lake Nicaragua* and *Lake Managua* being the most important. The *San Juan* river flows along the southern boundary of the country. Nicaragua is a country dependent on farm products like coffee, sesame and bananas. It is also the largest gold producer in Central America. Most Nicaraguans live on the lake shores. **Managua** is the capital.

Costa Rica is the most literate Central American country. The Caribbean lowlands are wet and similar to Nicaragua. The Pacific lowlands are drier while the central volcanic hills and peaks are well forested. In the lowlands, rice, corn and beans are the food crops, and coffee, the chief cash crop. Bananas thrive on the



Map 22 : Central American Countries (Shaded areas are highlands.)

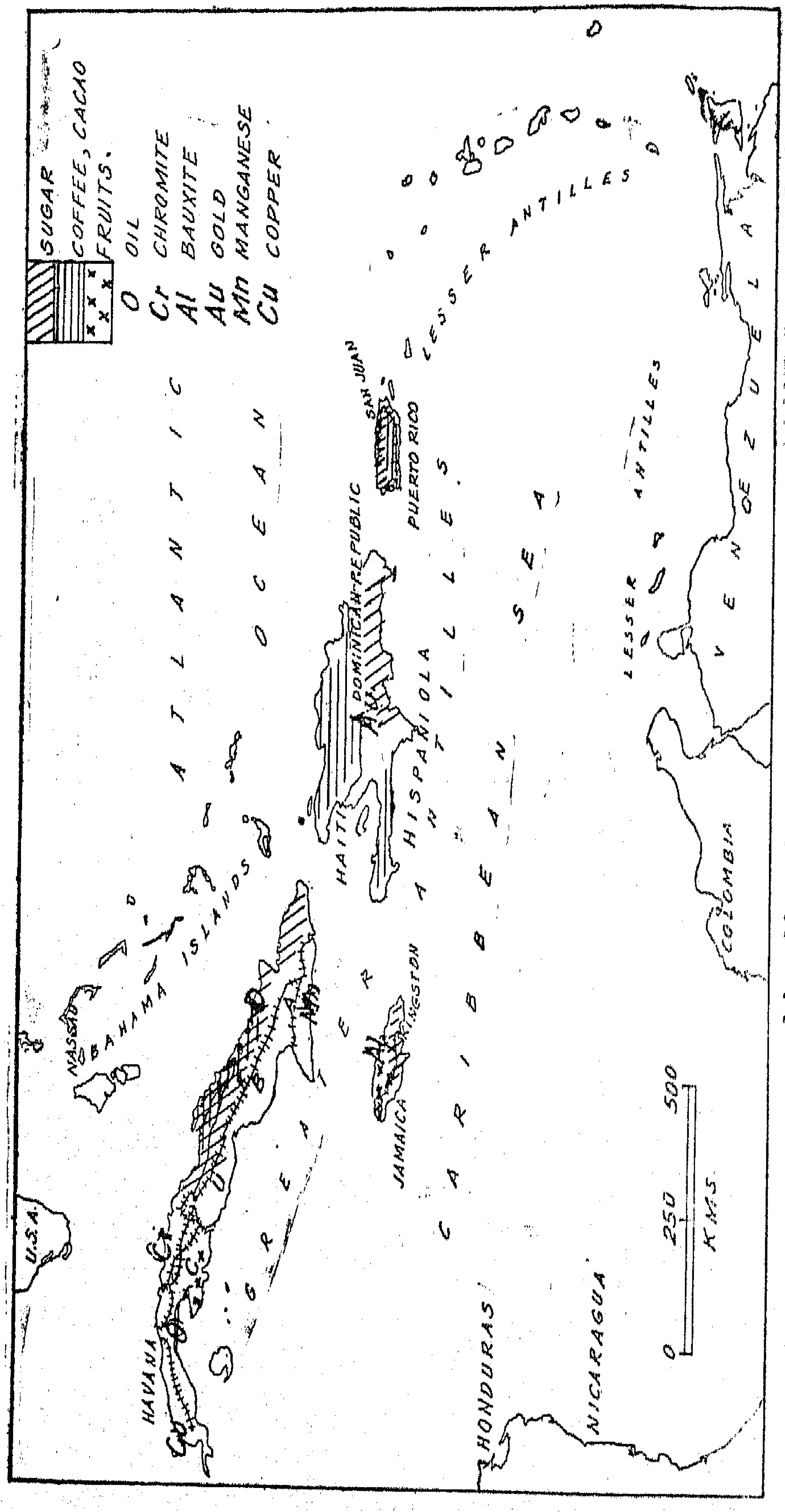
northern lowland. Cattle ranches are also found on the northern humid lands. **San Jose** is the capital.

Panama is a state that is long, west to east, and narrow. The Central mountains rise to more than 3000m. The lowlands are narrow. The land is entirely under forests. Farming is negligible; only rice and corn grow. Fishing is an important activity of the one million Panamians. **Panama** is the capital of Panama state.

Panama has grown in importance because of the *Panama canal.* It was constructed and opened for ocean traffic in 1914. It connects the Pacific and the Caribbean through an 80 km. long, narrow shipping canal. *Colon* and *Panama* are the two ports that lie at the two ends of the canal. It is a canal with lock systems. The ships have to be lifted by more than 30 metres before being dropped to the sea-level on the other side of the mountain. The canal is of great use to the U.S.A. because it has greatly shortened the distance by sea between the west and east coasts of the U.S.A. It has also brought the countries on the west coast of South America closer to the U.S.A. Mostly, mineral oil, ores and grains are carried across this canal. Mostly American ships use the Panama Canal.

(ii) The Caribbeans

Lying to the east of Mexico and Central America, in the Caribbean Sea are hundreds of islands that are grouped into three groups : the *Greater Antilles*, the *Lesser Antilles* and the *Bahamas*. The Greater Antilles consist of the larger islands running west to ~~west~~, just east of Yucatan. They are *Cuba*, *Jamaica*, *Haiti* and *Dominican Republic* (in one island) and *Puerto Rico*. The Lesser Antilles include a number of small islands running north to south like *Leeward* and *Windward islands*, *Virgin island*, *Curacao* and *Trinidad*. The *Bahamas* are a group of small coral islands running northwest-southeast to the east of Florida.



Map 23 : The Caribbean Islands

These islands are the crests of submarine volcanic hills and platforms rising suddenly from the ocean floor. Some of them have living volcanoes. These islands have maritime tropical wet climate with abundant rains during summer, due to storms. In most of them, forests and grasslands have been cleared, and farming has become a major activity. The rich volcanic soils and abundant rains favour the growth of sugarcane plantations, tobacco, coffee, bananas and tropical fruits in plenty. Cuba, Jamaica and Puerto Rico are particularly known for their farm products.

These islands also mine minerals. Jamaica is the largest bauxite producer of the world. Trinidad is the main source of natural asphalt and tar in the world. It has also natural gas and oil. Manganese, limestone, copper and nickel are mined in small quantities in Haiti, Dominican Republic, Cuba and Puerto Rico. Phosphate deposits also occur in many of these islands.

Fishing is an important activity of these islanders. They catch shrimps, lobsters, oysters, crabs and tropical fishes.

In most of these islands, tourism is an important industry. Sugar refining, fruit canning and tobacco industries are developed in Cuba, Jamaica and Puerto Rico. Oil refineries are found in Curacao and in Cuba.

Cuba is an independent republic. Jamaica and Trinidad belong to Britain Haiti and Dominican republic are independent republics while Puerto Rico is under the U.S. control. Many small islands belong to the French. Thus, these islands have mixed cultures with English, Spanish and French as the main spoken languages. The people are mostly American negroes, Indians and Europeans.

Nearly 25 million people live in these islands. The larger islands are more densely peopled.

Havana is the capital and port of Cuba. It is known for its cigars. It is a university centre. **Kingston** is the capital and port of Jamaica. **Nassau** is the capital of Bahamas. **Port-au-prince,** capital of Haiti, **Santo Domingo,** capital of Dominican republic, **San Juan,** capital of Puerto Rico and **Port of Spain,** capital of Trinidad are the other important towns.

The Caribbean islands mainly export bananas, citrus and other tropical fruits, sugar, tobacco, mineral oil, bauxite and phosphates. They import foodstuffs, textiles, machinery and finished goods.

Exercises

1. Name the states of Central America. Why do they remain backward ?
2. What is the benefit of the Central American Republics joining together ?
3. State the major export products of Central American Republics.
4. Explain the importance of the Panama canal.
5. Why are the Caribbeans a region of mixed cultures ?
6. State the main islands of the Caribbeans.
7. Compare the natural products of the Caribbeans with those of Central America. How and why do they differ ?
8. Write an account explaining why the Caribbean islands are better developed than Central America.

Project Work

1. *Make a table as follows, enumerating all the countries and islands mentioned in this lesson.*

Country	*Capital*	*Products*

2. *What are locks in canals ? Why are they necessary ? Get photographs of the Panama canal lock system.*

REVISION EXERCISES--1

1. State whether the following statements are true or false. If they are false, correct them.
   - (a) Montreal is the capital of Canada.
   - (b) Coffee and banana are the main products for export in Central America.
   - (c) Natural asphalt is a major product of Jamaica.
   - (d) The U.S.A. consists of 48 states; New York is its capital.
   - (e) The Great Lakes are used for navigation even by seagoing ships.
   - (f) Wheat is the main crop of Canada.
2. Fill in the blanks in the following sentences, choosing the proper word from those given at the end. Some additional words, not suitable, are also given.
   - (a) ______ is a railway junction on both the Canadian Pacific and Canadian National railways.
   - (b) ______ is a large river port on the St. Lawrence river.
   - (c) Hollywood is noted for ______ industry while Detroit is noted for ______ industry.
   - (d) Labrador is a ______, while Florida is a ______.
   - (d) ______ is mined near Tampico, ______ in Lake Superior area, and ______ near Chihuahua.

   (Oil, Chicago, Ottawa, silver, sulphur, Winnipeg, Quebec city, iron, film, sugar, cold plateau, car, sandy peninsula, volcanic peak, tin)
3. State what the following are and where they are :
   Arizona; Alleghany; Niagara; Yukon; Yucatan; Haiti; Vancouver; Manhattan.
4. Name the countries in North America and their capitals.
5. Compare the products of Mexico with those of Canada.
6. Draw a map of North America and mark the following :
   - (a) The Sierra Nevadas and the Appalachians.
   - (b) Alaska; Yucatan; Labrador.
   - (c) Miami city; San Francisco; Gautemala city; Winnipeg; Chicago.
   - (d) Areas growing rice and wheat.

SECTION II

SOUTH AMERICA

South America, a continent explored and colonised somewhat later than North America mainly by South Europeans is in many respects different from its northren counterpart. Known as 'Latin American' countries, the countries of South America are economically less progressive and are poor. These countries are manily producers of agricultural, pastoral and mineral products and depend for their prosperity to a large extent on the U.S.A. They trade mainly with the U.S.A. and to a much lesser extent with Europe. The development is mainly along the coasts. The 170 million people of Latin America live in coastal areas.

Let us see in the next few pages how the people of S. America live and what main contributions they make to world production and trade.

CHAPTER 6

SOUTH AMERICA

The Land and the People

Look at a map of the world in an atlas. You will find in it a large continent to the south of North America, connected with it by a narrow mountain spine. It is South America. It is a continent smaller than North America, wide in its northern parts and tapering rapidly towards south. The continent is about 7000 kms. long north-south, aud more than 5000 kms. wide where it is broadest. The area of the continent is 18 million sq. kms., and the total population, 170 millions. It extends between 12 N. and 54° S.; and between 78°W. and 35°W. The Equator and the Tropic of Capricorn (23½°S.) run across this continent in the northern and central parts respectively.

(i) Exploration

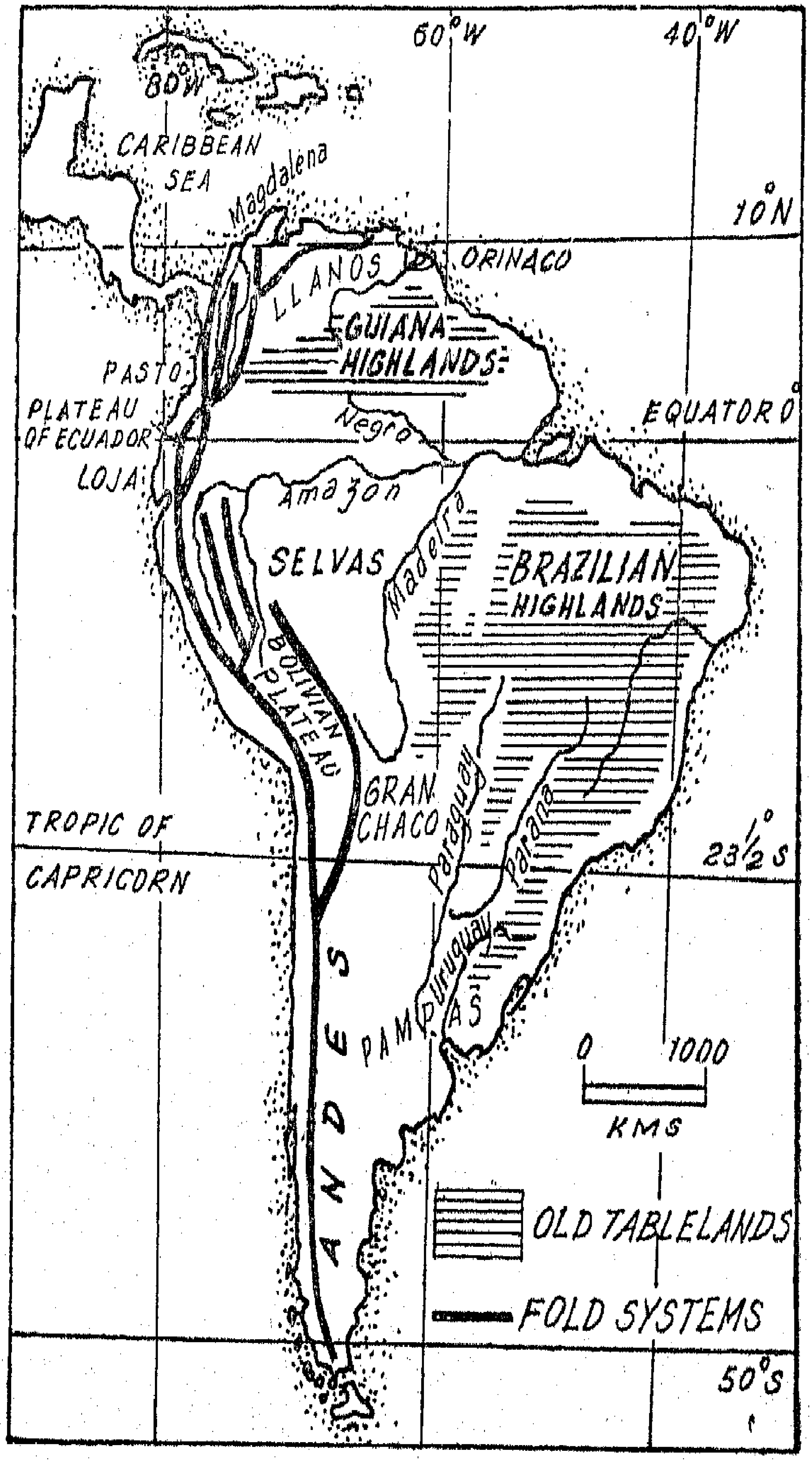
South America was discovered and explored during the early sixteenth century, soon after the discovery of North America. *Magellan* sailed along the east coast of S. America right upto its southern tips before entering into the Pacific. The exploration and colonisation of the different areas in S. America were done mainly by the Portuguese and the Spanish, just as N. America was mainly colonised by the British and the French. That is why very often, N. America is known as Anglo-America in contrast to South America, called Latin America. The Italians have also settled later, in parts of South America. Only small areas adjoining the Caribbean Sea in the north were colonised by the British, the French and the Dutch.

Most of S. America remained colonies of the Portuguese and the Spanish till the end of last century. The have now become independent republics, with close trade relations to the U.S.A.

Before S. America was colonised by the Europeans, Indians not to be confused with the people of India) were living in S. America, mostly by hunting and fishing. The ancient empire and civilisation of the *Incas* in the western highlands was known to exist, till the colonies were settled.

(ii) Relief and Drainage

South America is a triangular mass of land with its apex southwards. It lies across the equator, with a small part—about one-eighth—in the Northern Hemisphere. Though S. America extends as far south as 54° S., most of it lies in the tropics, because the continent is wide in the north and tapers to the south in the temperate latitudes.



MaP 24 : Relief of S. America

South America has a simple pattern of relief. Close and parallel to the western, Pacific coast, running along the length of the continent, are the *Western Cordilleras.* They rise to 5000 m. In the southern parts, the Cordilleras form a single chain, called the *Andes*, with practically no passes across. North of 30. S., the Andes divides into two major chains, with high plateaus like *Bolivia* and *Peru* enclosed in between. The western Andes carries many volcanic peaks like *Aconcagua*, *Chimborazo* and *Cotopaxi*. Ancohuma in Bolivia is the highest peak in the Andes rising to more than 7000 m. The higher elevations of the Andes are covered by snow.

To the east of the Western Cordilleras, there lie three plateau areas separated from each other. The highest and largest of them lies in the middle. It is the plateau of *Brazil* rising to more than a 1000 m. and having high plateau rims along its eastern edge facing the Atlantic coast. To the north of the Brazilian plateau is the *Guiana highland*, a sandstone plateau, equally difficult to reach from the coast. In the extreme south is the low plateau of *Patagonia*, mostly below 1000 m.

Lying in between the western mountain chains and the eastern highlands and sea-coasts are vast lowland plains drained by the *Orinoco* river in the north, the *Amazon* river in the middle and the *Plate* river system in the south. The coastal lowlands both on the Atlantic and Pacific coasts are very narrow. Thus, one can recognise *three* broad physical divisions in South

America: (a) The western mountains, (b) the eastern plateaus, and (c) the central lowlands.

For its size, S. America has a shorter coastline than most continents. This is because, the coastline of South America is fairly regular, with few breaks. Hence natural harbours are few. It is only in the southern coast to the west of the Andes in South Chile, that the coast is full of small rocky islands and fiords, as in Norway.

Three large river systems drain South America eastwards. The *Amazon*, one of the longest and broadest rivers of the world, is 6280 kms. long. It rises in the snowfed equatorial Andes and flows east to join the Atlantic with a wide estuary, that is nearly 200 kms. wide. The river is deep, perennial and more than 3 kms. wide over its lower 1500 kms. course Its banks are covered by wide marshes on both its banks. The Amazon flows in between the Guiana and Brazilian highlands, just south of equator.

The *Orinoco* rises in the Andes in the state of Columbia and flows east to join the Caribbean Sea, to the north of the Guiana highlands. It forms a delta. Its banks in the lower course are also marshy.

The *Plate* river system consists of three rivers : the *Parana*, the *Paraguay* aud the *Uruguay*. They rise in the southern slopes of the Brazilian higlands and flow south to form a wide estuary in the northeast coast of Argentina. This river system is shallow, compared to the others.

A large number of short and swift streams flow east from the Brazilian highlands into the Atlantic. They form waterfalls when they descend from the plateau. The *Araguay*, the *Paranaiba* and the *Sao Francisco*, all in Brazil, are the most important. Swift, short streams also flow west and north from the Andes into the

Pacific and the Caribbean. Of them, the *Magdalena* flowing north into the Caribbean is the longest.

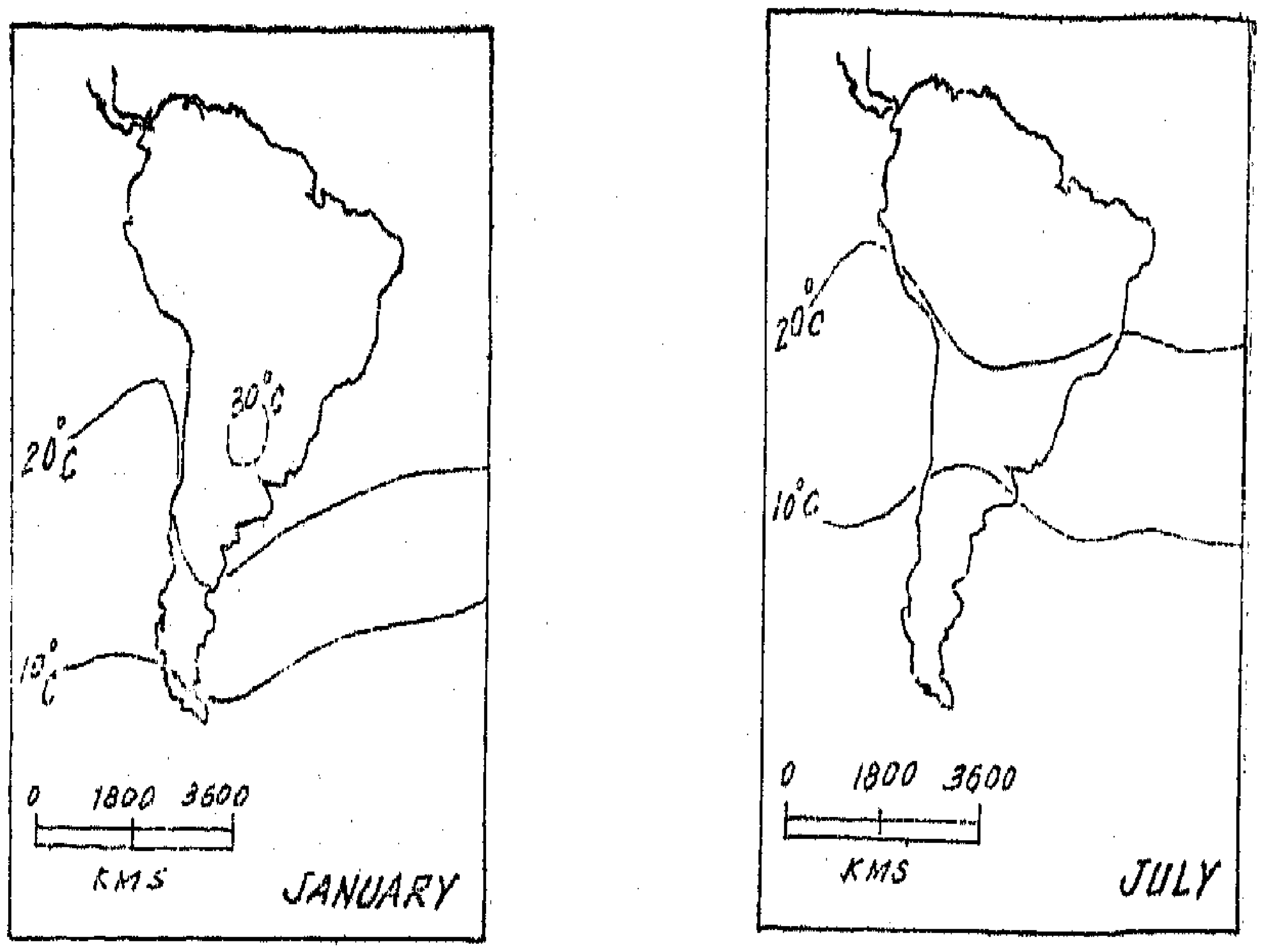
There are quite a few large lakes in the high plateaus enclosed in the Andes. *Lake Titicaca* and *Lake Poopo* are the larger ones, at a height of 4000 m. above sea. There are some large lakes in the foothills of the Andes in Argentina. A large lagoon lake like the Chilka lake of Orissa is found in the northern shores adjoining the Caribbean Sea. It is called lake *Maracaibo*.

(iii) Climate

Of the different continents, South America has the most equable and moderate climate. This is because of its position and shape, that makes most of South America lie in the tropics. In the temperate latitudes, no part of South America is too far away from the sea. Besides, the interior of South America has mostly lowlands.

Nearly two-third of South America lies within the tropics The Amazon and Orinoco lowlands have monotonously uniform, high temperatures—about 27° C. The Brazil and Guiana highlands have hot summers and warm winters. In the equatorial and tropical Andes, temperatures are lower on account of elevation-summers are mild and winters cool. For example, the town of Quito in the equatorial Andes has a perpetual spring, being at a height of over 3000 m. In the temperate South America, summers are warm and winters mild. Only in the southern Andes, winters are cold and snow falls. Along the west coast of Chile and Peru, the cool currents of the Pacific keep the seashores cooler for the latitude.

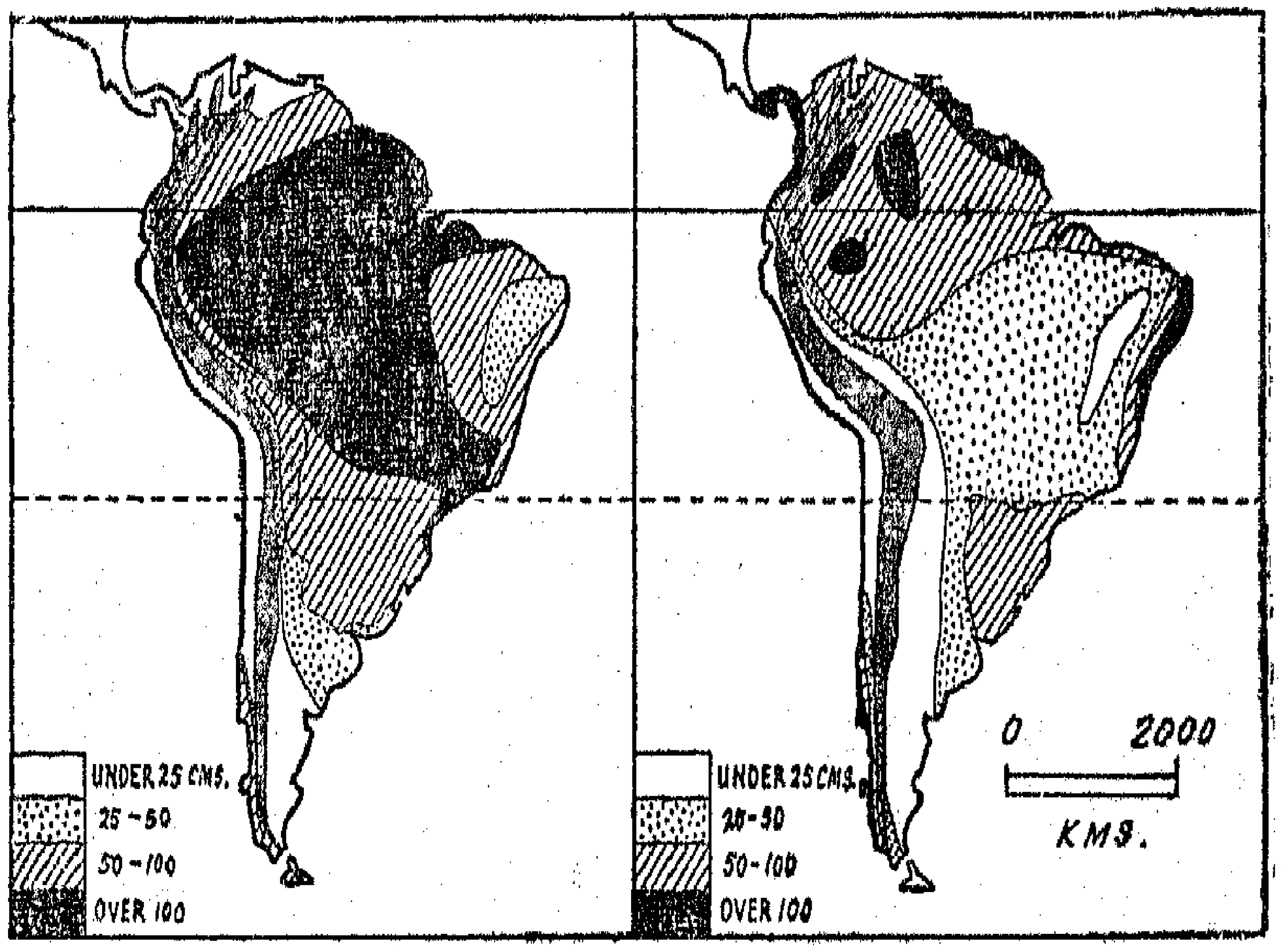
Most of South America lies in the trade wind belt. In Guiana and Orinoco lowlands, the N. E. trades blow, while in Brazil, the S. E. trades blow all the year.



May 25 (a) : South America—January and July Temperatures.

Argentina and Chile are under the influence of the west winds.

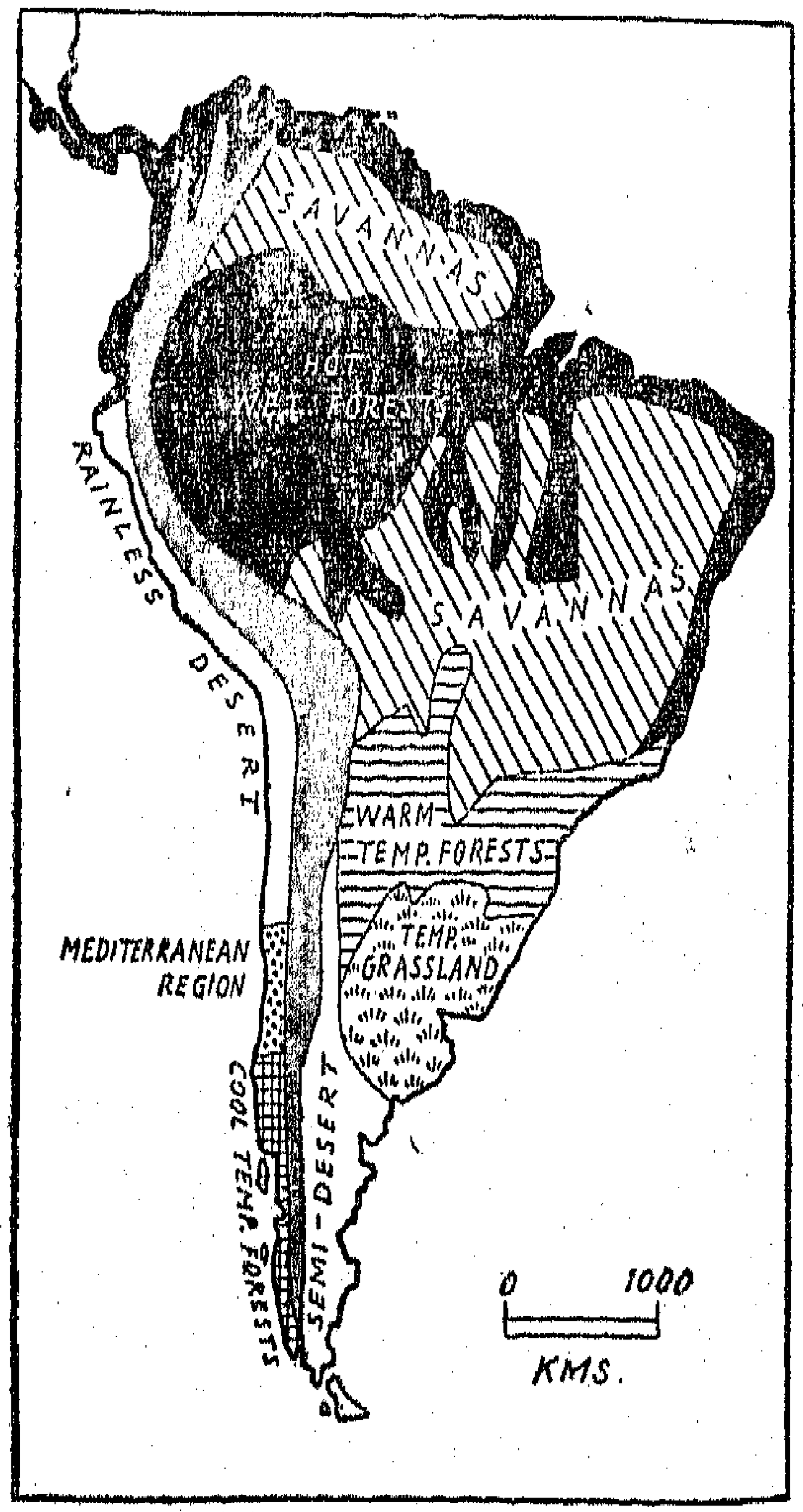
During the period November to April, when it is winter to the north of the equator, the Amazon lowlands and the highlands of Brazil receive heavy rains of more than 200 cms. due to convectional type of rainfall. Moderate rains are received in Guiana highlands, Plate river valley and the Tropical Andes. Patagonia is dry. South coast of Chile also receives some rains. During the other half of the year, when it is winter in the greater part of S. America, heavy rains are received in south and central Chile from west winds, in the Amazon lowlands and in Guiana. The rest of the lowlands and Brazil receive scanty rains. Thus, the Amazon lowlands and south Chile receive rain all the year, Guiana and Brazil during summer, central Chile during winter; Patagonia, north Chile and Peru coast are deserts with no rains in any part of the year.



May 25 (b) : Rainfall in S. America in southern summer (December) and southern winter respectively.

(iv) Natural Vegetation and Animal Life

The Amazon lowlands have a hot wet equatorial type of climate and are therefore covered with very dense tropical evergreen type of forests. The forest is called the *selvas* type. The trees are mostly hard wood, the main species being rubber, cinchona, ebony and mahogany. Collection of brazilnut, sarsaparilla, herbs and roots, balata are the main occupations of the forest dwellers. These forests are full of bird and insect life,



Map 26 : South America-Natural Vegetation mosquitoes, huge snakes, monkeys, squirrels and tree lizards.

On either side of the Amazon lowlands are tropical grasslands in the plateau of Brazil and Guiana uplands. These are of the savanna type, having tall grasses with scattered, stunted trees. These grasslands are called the '*Campos*' in Brazil, and the '*Llanos*' in Guiana and Orinoco lowlands. Gum and resin collection is an important activity in these grasslands besides rearing of large livestock.

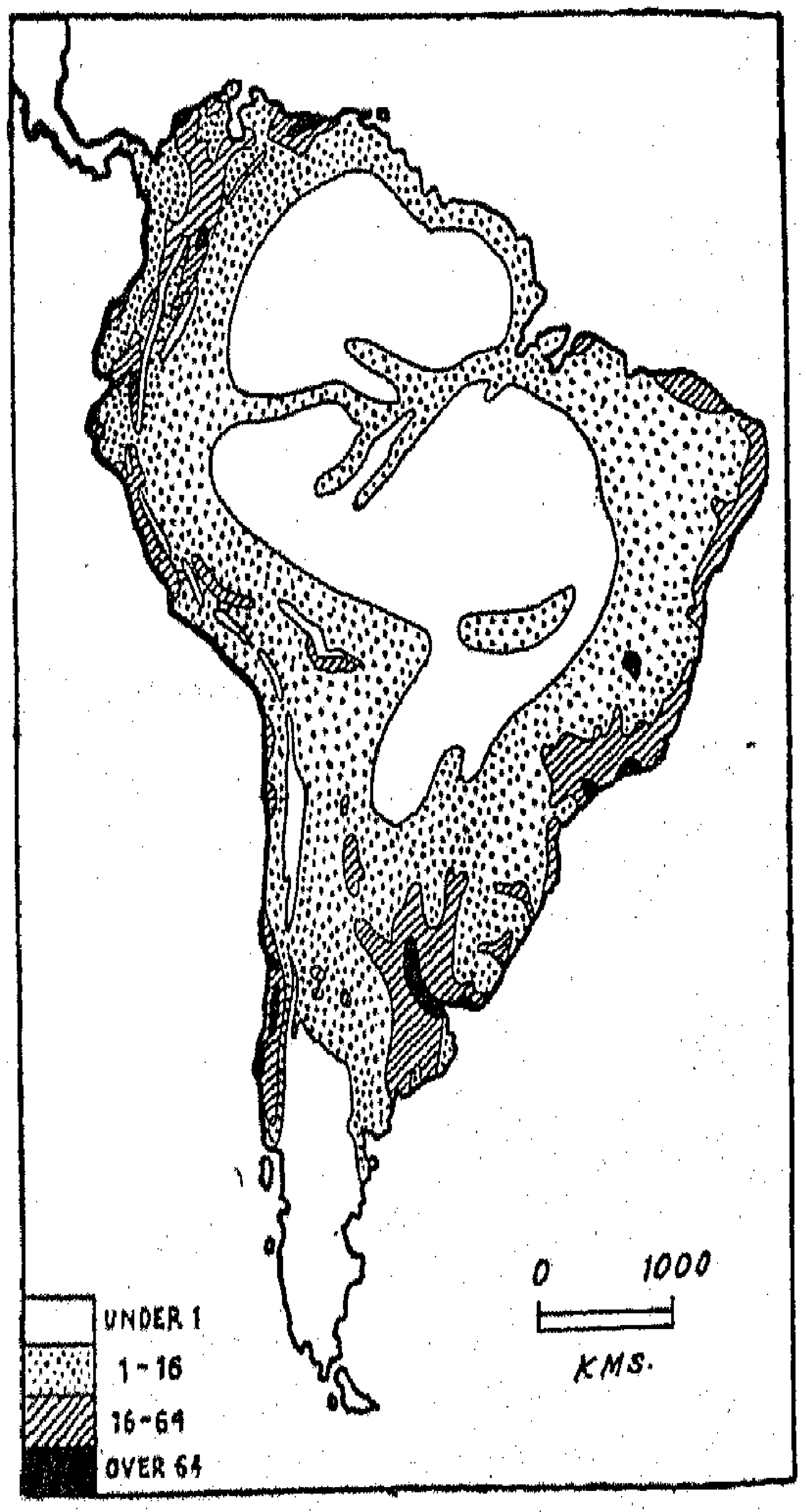
Central Chile has a Mediterranean type of vegetation, while North Chile, Peru coast and Patagonia have desert type of vegetation, Goats and mules are the main animals here. The Plate river lowlands have a temperate grassland type of vegetation and are known as the '*Pampas*'. Here, the grasses are short. Between the Pampas and the Campos are areas under subtropical forests, known as the '*Gran Chaco*'. South Chile has a temperate forest vegetation with softwoods. The tropical Andes have a mountain type of vegetation, that varies with the height. Tropical and subtropical hardwoods, temperate softwoods and hill pastures are found one above the other with increasing height.

Many plants and animals of South America are peculiar to the continent and are found elsewhere in Australia only. The other continents have a different type of plant and animal life. For example. the rubber, cacao and cinchona trees are natives of South America. The anteater and the sloth are also strange animals found in South America and Australia only. In the mountains of South America are found animals like the *llama* and the *alpaca*, similar to our mountain goats, that are useful beasts of burden. The Amazon forests have numerous varieties of poisonous snakes and pythons like the '*anaconda*'.

(v) People and Production

South America has a variety of resources. The continent has rich forestwealth of the tropical variety in the Amazon lowlands and of the temperate softwood type in South Chile. The forestwealth is not much used in case of Amazon lowlands due to the dense forests with marshy undergrowth, unhealthy malarial climate, difficulties of transport and shortage of labour. The forests of South Chile lie far away from the civilised world, in islands that are difficult to reach.

South America has vast tropical and temperate grasslands in the lowlands of Orinoco and Plate river and the plateau of Brazil. Therefore, grazing of animals and producing livestock products are the most important occupations in most of these areas. Cattle and sheep are kept in large number, and the major exports of South American countries like Brazil, Venezuela, Guiana and Argentina are pastoral products like cheese, wool, chilled mutton and beef. Goats are kept in large number in Patagonia.



Map 27 : Population distribution in South America

In the lowlands adjoining the coasts and in the lower river valleys, farming is another important activity done with the help of machinery. Wheat and maize are the main products exported, though Brazil exports rice and sugar. In the hills behind coastal Brazil, coffee is an important product.

South America is rich in metallic minerals though poor in coal. The Andean countries—Bolivia and Peru—and Brazil plateau mine a lot of minerals like silver, tin, lead, iron ore and others for export. The Caribbean lowlands produce oil. Hydel power can be produced in large quantities in future.

South America has very few industries.

Nearly 170 million people live in South America. They are the native Indians, the colonial South Europeans and their mixed groups. Most of the people live in coastal areas, mainly in eastern and southeastern Brazil, Plate river estuary, central Chile and coastal Venezuela, The interior of Brazil, Amazon lowlands, Patagonia and Andes region are practically empty either on account of unhealthy climate or mountain land or unproductive soils. Nowhere in S. America, there is crowding of people as in Europe or the plains of India or even northeast U. S. A. The main occupations of the people are farming and stock raising. Most people are towndwellers, living in ports and coastal towns.

(vi) Communications

The development of railways in South America is very poor. Most railways are short, in coastal areas and in different gauges. The only transcontinental railway runs from Buenos Aires in the Plate river mouth to Valdivia in central Chile across the Andes. The railway network is fairly developed only in the Plate river valley and southeast Brazil, with Sao Paulo as a major terminal. New railways are under construction from Sao Paulo to Bolivia and from south Chile to Plate river valley.

Riverways are more important in South America. The Amazon is a deep navigable waterway. Even large ships can reach from Balem on the mouth upto Manaos, about 1500 kms. inland. Smaller ships can reach upto Iquitos, about 5000 kms. from the mouth. Many of the tributaries are also navigable. The Amazon is the only means of entry into the forested lowlands. Because these lowlands are thinly peopled, its use is limited.

The Orinoco is used for transporting mineral ores, oil and grains. The Plate river is not useful because it is more seasonal and also shallow. Many of the rivers of Brazil are used in their lower courses for transporting goods. They are not fully navigable because of waterfalls. Railways act as feeders to the riverways in such areas.

There are quite a few good harbours like *Racife*, *Rio de Janeiro*, *Santos*, *Monte Video*, *Buenos Aires* and *Bahia Blanca* on the east coast, *Valdivia*, *Concepcion* and *Antofagosta* on the west coast which are good harbours that handle the foreign trade. Most South American countries are well connected by airways with the U.S.A. and other parts of the world.

In the Andes, animals are the main beasts of burden. Aerial ropeways are also used.

Exercises

1. Answer the following :
    (a) Name the major physical divisions of South America.
    (b) Why has South America a more equable climate than other continents ?
    (c) Which parts of South America receive rainfall all the year and why ?

(d) Name the major grassland regions of South America and their products.

(e) Why do most people of South America live in coastal towns ?

(f) Why are railways not well developed in South America ?

(g) Mention the major ports of South America.

2. Write short accounts of the following :

(i) The Waterways of South America; (i) The strange animals of South America; (iii) Colonisation of South America.

3. Give reasons for the following :

(a) The Amazon lowlands are thinly peopled.

(b) The rivers of Brazil plateau are not much useful.

(c) The forests of South Chile are not exploited.

(d) Quito has eternal spring.

4. Find from an atlas in which countries and under which climatic region the following towns of South America are located : Sao Paulo, Santiago, Manaos, Buenos Aires, Antofogasta.

Project Work

1. *Collect pictures and photographs of the strange plants and animals of South America.*
2. *How will you reach South America from India, by air and by sea ? Which towns will you touch on the way ? Mark on a map these routes.*
3. *Find with the help of your teacher the areas colonised by different European countries and shade them in different colours on a map of South America. Also mark out the areas occupied by natives.*

CHAPTER 7

THE CARIBBEAN LANDS OF SOUTH AMERICA

Politically, South America has thirteen different countries, Brazil being the largest among them. We shall study them under the following four major heads :

a) Caribbean lands of South America—French, Dutch and British Guianas, Venezuela and Colombia.

(b) Countries of Tropical Andes—Ecuador, Peru and Bolivia.

(c) Tropical lowland and plateau—Brazil.

(d) Plate river lowlands—Paraguay, Uruguay and Argentina.

(e) Chile.

We shall first study the Caribbean coastal lands. These countries lie just north of the equator and have the most favourable location for trade and external relations with the U. S. A. and Europe through the Caribbean sea; they are also the nearest to them. They have tropical rainy summer type of climate. The countries included in the group are Venezuela, Guiana highlands and Colombia. Though a part of Colombia lies in the Amazon lowlands and another part in Equatorial Andes, it is included here because entry into Colombia is mainly through the Caribbean Sea. Tropical lowland and highland products are the wealth of these countries.

(i) Guianas

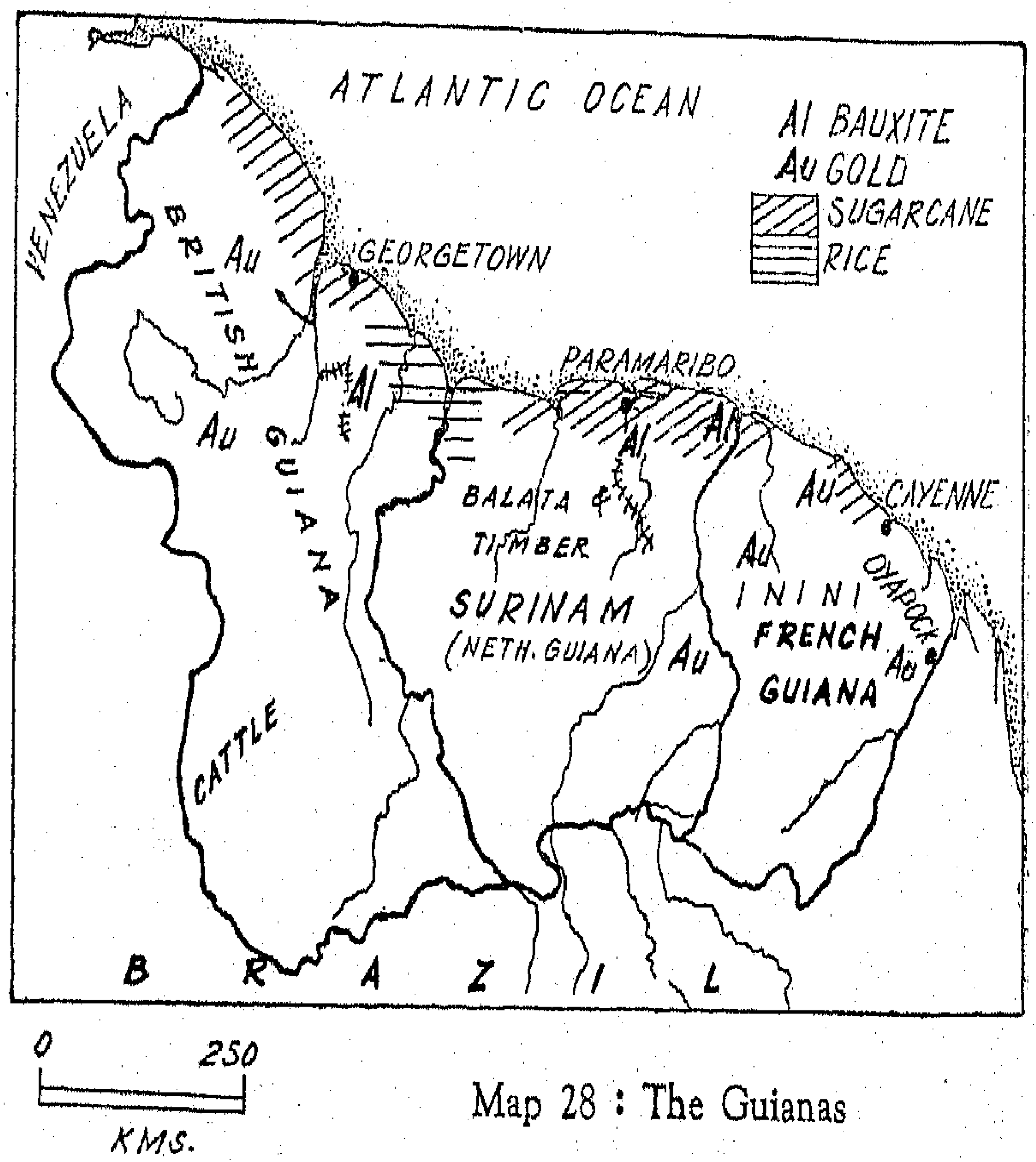
The Guianas lie between the Orinoco lowlands of Venezuela and the Amazon lowlands of Brazil. They consist of the Guiana highlands that form a plateau between 200 and 2000 m. in the south and a low, marshy coastal lowland overlooking the Caribbean sea in the north. The word 'Guiana' in native Indian language means 'watery land' and is given to the land because of its watery and marshy lowland.

Guiana, by its location, has an equatorial type of climate with monotonously high temperatures, unhealthy malarial climate, and heavy rains throughout the year. The highlands, particularly in the west are somewhat cooler. The lowlands are damp and unhealthy with mosquitoes and insect life in abundance. The highlands are forested with tropical evergeen 'selvas' vegetation. The lowlands are under the 'llanos' grassland type of vegetation and marshes with tall grasses. Cattle rearing in the uplands and grasslands and collection of forest products are the main occupations of the native Indians and negroes who live here.

Politically, Guianas belong to three countries. The western part, the largest in area, is called *British Guiana* and is an independent country within the British Commonwealth. To its east is *Surinam* or *Dutch Guiana*, a colony of Netherlands. The farthest east and the smallest is *French Guiana*, a colony of France. French Guiana is the least developed and thinly peopled.

British Guiana lies adjoining Venezuela. It is the best developed and peopled among the three Guianas. Farming is done with the help of irrigation on lands cleared of forests and grasses. Sugarcane and rice are the main crops. Sugarcane is grown in large plantations, with the help of negro and Indian labour. Cocao plantations and banana plantations are developed widely in the coastal lowlands. Tropical fruits like citrus, lemon, papaya and coconuts are also grown.

Some minerals are also mined. Gold and diamonds are got from gravels in the river courses. Bauxite is also mined around Mackenzie and exported.



Map 28 : The Guianas

A little more than half a million people live in British Guiana. *Georgetown* is the capital and port. Sugar refining is its main industry.

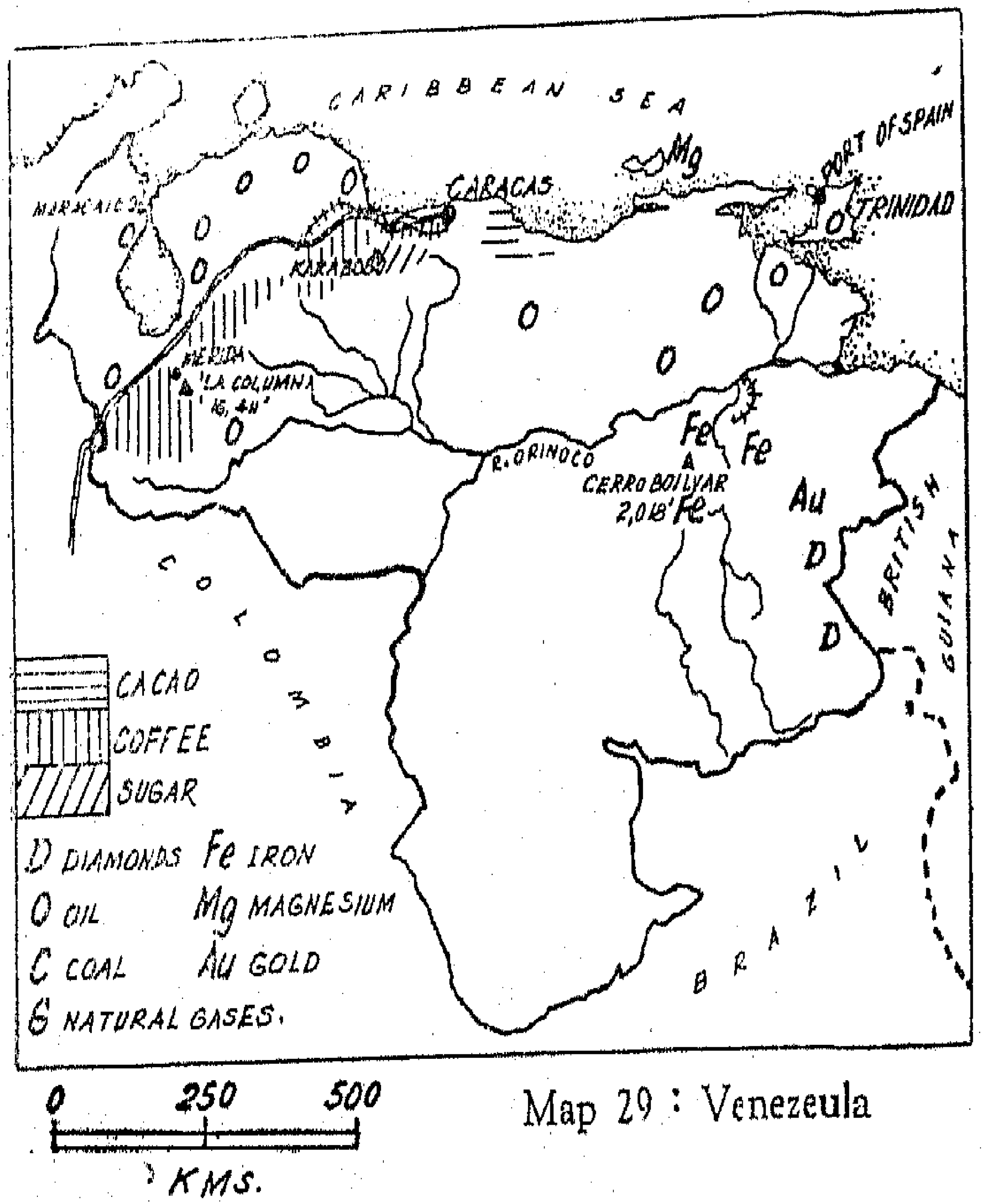
British Guiana exports sugar, coffee, cocoa, banana, rice and minerals. The imports are textiles, finished goods and machinery.

Surinam or *Dutch Guiana* : Rice, sugarcane and cocoa are its main crops, and bauxite its main mineral. It has less than half a million people, a population less than a quarter of Amsterdam city in Holland. A third of this population lives in its capital and port city, *Paramaribo*. The town has a Dutch atmosphere.

Lumbering and gold mining are the major activities of French Guiana that has about 40000 people, most of whom live in the capital, *Cayenne*.

(ii) Venezuela

Venezuela is a fair sized country with an area of about a million sq. kms. and a population of 7½ millions. The country falls into four physical divisions: the lowlands around Lake Maracaibo in the extreme west, a branch ridge of the Andes running southeast to northeast, right upto the sea, the Orinoco lowlands and the Guiana highlands in the south and east. The Orinoco and its tributaries flow east through the central parts of the country.



Map 29 : Venezeula

Venezuela lies within 12° from the equator. It has therefore hot summers and warm winters. Rainfall from the N. E. trade winds is during summer; it varies between 100 and 200 cms. The Guiana highlands and the ridge of the Andes are well forested but the forests are little used except for collection of balata, vanila and other forest products. The Orinoco lowlands are covered with tall grasslands known as the *llanos.*

Stock raising is the main occupation of the people here. About 6 million cattle, besides horses and pigs are raised. Hides and skins are the main exports. Cattle rearing, here, suffers from a number of handicaps such as severe floods in summer, lack of pasture in the dry season and numerous insect pests and cattle diseases.

In the Maracaibo lowlands and coastal Orinoco valley, farming is important. Sugarcane, cocao, maize, rice, tobocco and cotton are grown in lowlands and coffee in the foothills. Venezuela produces high grade cocoa.

Venezuela is the third largest producer of mineral oil in the world and the largest exporter. The oilfields are all found in the Maracaibo lowlands and to a lesser extent in the lower Orinoco valley. The oil is sent to West Indies or the U.S.A. for refining. Besides oil, iron ore is mined in the Orinoco valley. Gold, diamonds, manganese, nickel and phosphates are obtained from the Guiana highlands.

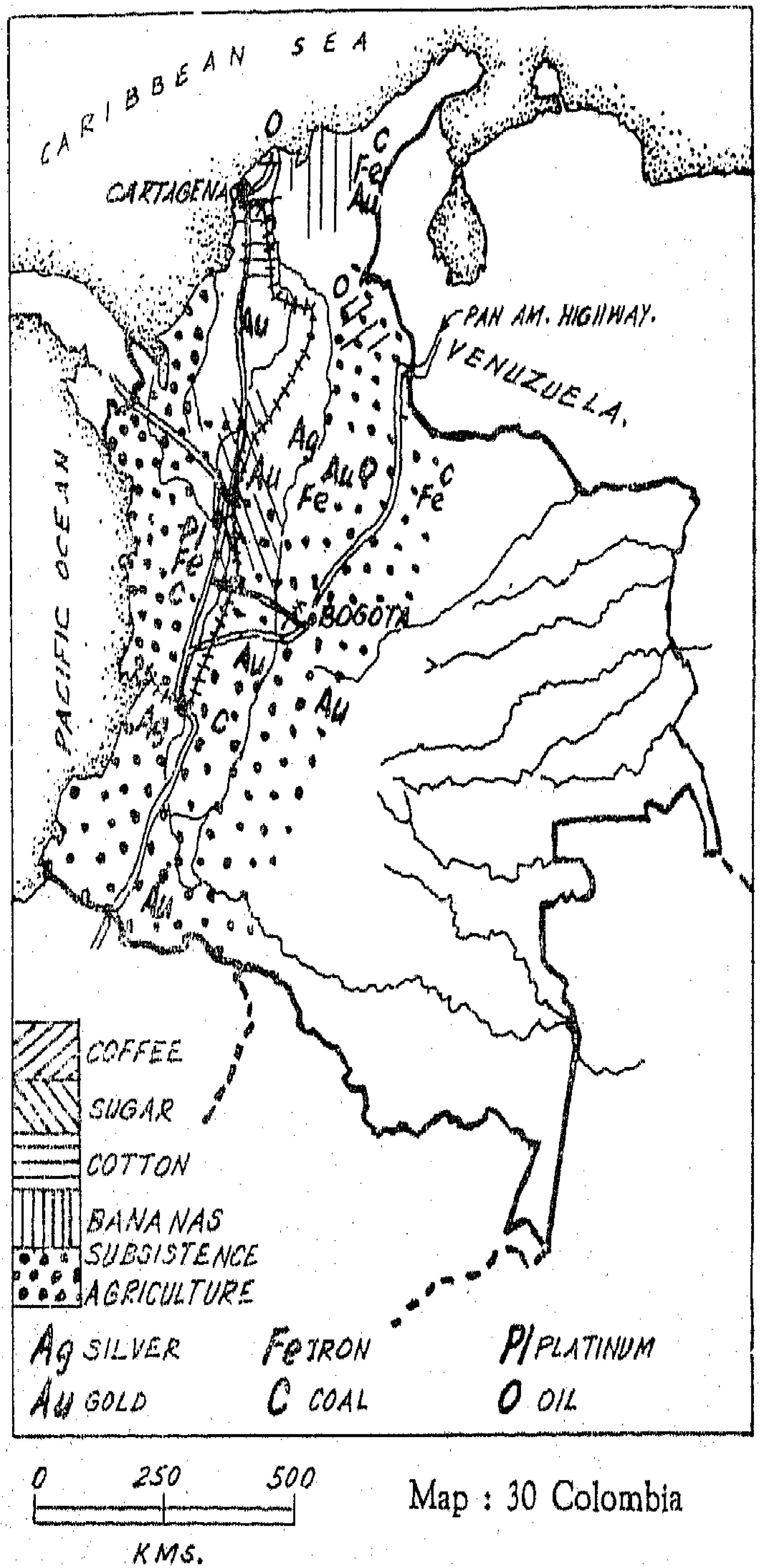
There are few industries in Venezuela but they are developing. Petrochemical industries are fast growing. A steel plant is being built.

The people of Venezuela live in the Maracaibo lowlands. The Orinoco valley and the Guiana highlands have very few people. Nearly half the population lives around the capital city of **Caracas**, which is at a height of 1000 m. *Vatencia*, the old capital is a commercial town. *Cuidad Bolivar* is a river port on the Orinoco that exports hides and skins and iron ore.

Venezuela trades mainly with the U.S.A. It exports crude oil, iron and other minerals, hides and skins, coffee and cocoa. The imports are textiles, machinery and finished goods.

(iii) Colombia

Colombia, a country slightly larger than Venezuela, has, however, thrice its population. It is the only country of South America that faces both the Atlantic (Caribbean) and the Pacific.



Map : 30 Colombia

The Andes mountain is a single chain in the southern part of the country but divides into three south to north running narrow ridges with deep valleys in

between further north. The Andes, here, rises to more than 5000 m. in elevation. To the west of these ridges, there is a narrow Pacific coastal lowland. To the east of the ridges, occupying nearly half the area of the country are lowlands drained by the Orinoco and Amazon rivers. The valleys in between the ridges opening out northwards are drained by the *Magdalena* and its tributary, the *Cauca.*

The lowlands of Colombia have an equatorial type of climate with high temperatures and rainfall throughout the year. The highlands, however, have much cooler conditions depending upon the height. As in Central America, the people divide the land according to height as *tierra caliente*, *tierra templada* and *tierra fria.*

The eastern lowlands in the Orinoco and Amazon valleys are covered by grasslands in the north and thick evergreen forests in the south. Cattle are raised in the grasslands. The Andes are also covered with forests.

Cultivation is not much done in Colombia It is found mainly in the Magdalena, Cauca lowlands and Pacific coastlands. In the lowlands, cacao, maize, rice, banana, cotton, sugarcane and tobacco are grown. In the foothills, coffee is the main crop. Colombia is the second largest producer of quality coffee in the world.

Colombia is rich in minerals. Gold, silver, copper, lead, mercury and manganese are mined. Colombia is the largest producer of platinum in the world. It comes from the foothills of the Andes on the Pacific coast. It is also the largest producer of emeralds in the world, most of it coming from the Magdalena valley. Mineral oil is drilled near the mouth of the Magdalena and sent to the U. S. A. for refining.

Sugar, rubber, tanning and car assembly are the main industries of Colombia.

Most of the people live in the northern valleys and the Pacific coast. **Bogota,** the capital, is situated at a height of 3000 m. and has a pleasant climate, similar to Quito. *Medellin* in the Cauca valley is a coffee collecting centre and mining town. *Cartagena* is an oil exporting port on the Caribbean. *Cali*, *Pasto* and *Bucaramanga* are inland industrial towns. *Buenventura* is a port on the Pacific.

The Magdalena river carries most of the trade of Colombia. Short railways run from the river to inland towns like Bogota. Recently, a railway has been built from Bogota to Buenventura on the Pacific coast across the Andes.

The major exports of Colombia are coffee, cocoa, mineral oil, emerald, platinum and other mineral products.

All the lands of Caribbean coast in South America are oil and mineral producers as well as exporters of coffee, cocoa and banana.

Exercise

1. Answer the following questions :
   - (a) What are the main occupations of the people of Venezuela ?
   - (b) Give an account of the mineral wealth of Colombia.
   - (c) State the major physical divisions of Colombia.
   - (d) What are the problems of stock raising in Venezuela ?
   - (e) Name the products of Guianas.
2. Fill in the blanks :
   - (i) ______is the other name of Dutch Guiana.
   - (ii) The port of______on the Orinoco in Venezuela exports hides.
   - (iii) Oil in Venezuela is drilled in______Orinoco Valley and______Maracaibo.
   - (iv) Emeralds are obtained in the______Magdalena river valley in Colombia.
3. State whether the following are true or false. Correct the false statements.
   - (i) Cartagena is a port of Colombia on the Pacific coast. F
   - (ii) The Llanos are forestlands. F
   - (iii) Caracas is the capital of Venezuela. T

4. Compare Venezuela and Colombia in as many respects as possible.

Project Work

1. *Make a table of all the countries of South America. Find their capitals. State whether the capitals are in lowland, plateau or mountain How many of the countries have mountain-capitals? Find the reason for their locations.*
2. *If you are to go from Georgetown to Bogota, how will you go? Using an atlas, find and mark the route.*

CHAPTER 8

COUNTRIES OF TROPICAL ANDES

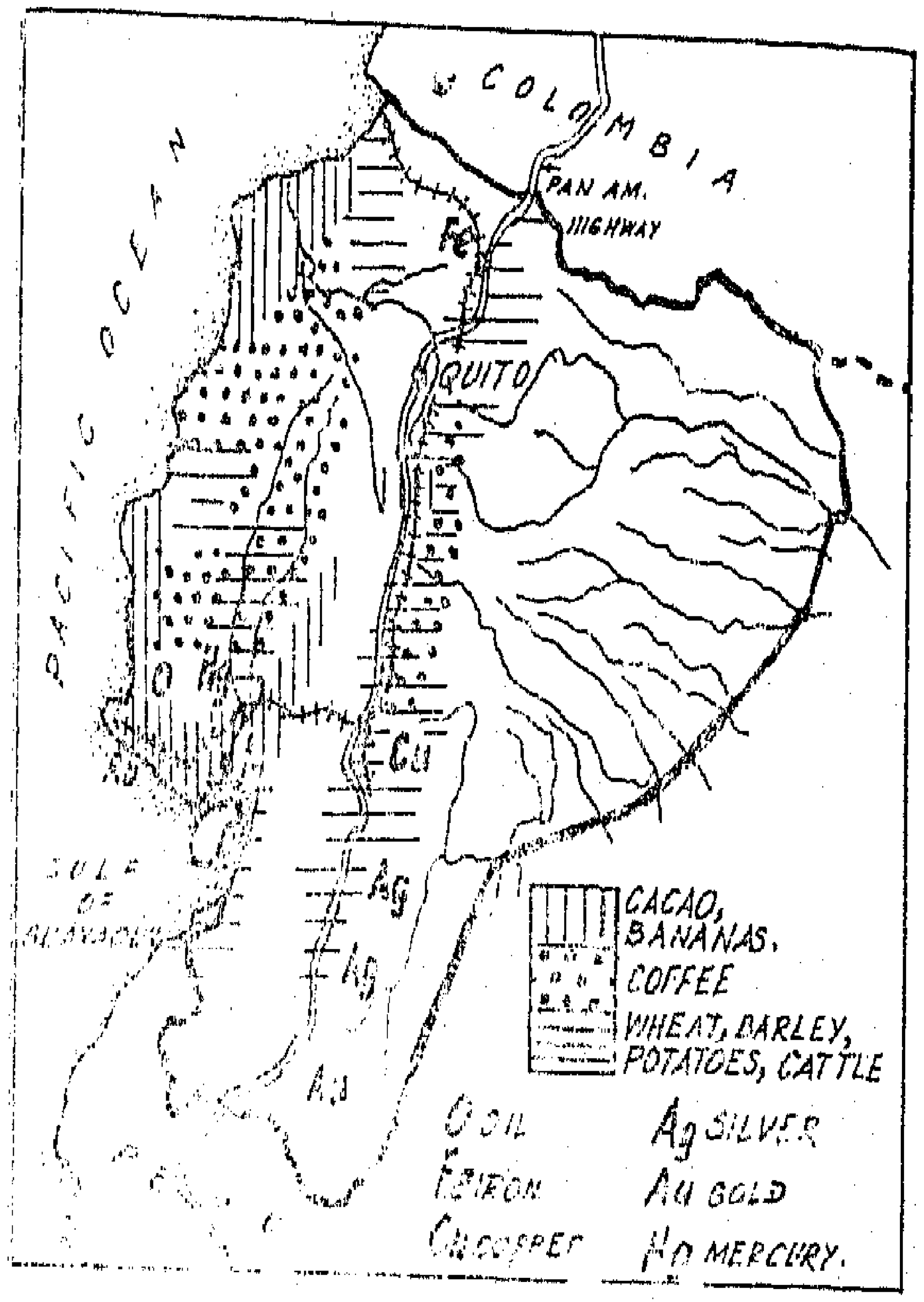
The High Andes within the Tropics includes three countries, *Ecuador*, *Peru* and *Bolivia*. Ecuador, as the name itself implies, lies on the Equator and is a small country. To its south lies Peru. Both Ecuador and Peru have a narrow Pacific coastal lowland, the High Andes region and an eastern lowland belonging to the Amazon plains. Bolivia is a high plateau enclosed within the western and eastern chains of the Andes and has no sea-coast. It includes in the northeast a small part of the Amazon lowlands.

Though all these countries lie well within the tropics, they enjoy cool climate by virtue of their height. They are all rich in minerals, and mining is an important activity in all of them though mining is beset with many difficulties. Minerals fetch large income to these nations.

The oldest South American civilisations belong to these areas, where the *Incas* had built a mountain empire.

(i) Ecuador

Ecuador, lying more or less on the Equator, falls into three physical divisions: the narrow, long Pacific coast plain; the Andes with ridges and valleys and a plateau at an elevation of 3000 m., and the eastern Amazon lowlands. The coastal areas, lying close to equator, have uniformly hot wet equatorial climate with heavy rains. Throughout the year, days and nights are nearly equal. Over the mountain zone, the climate is cooler throughout the year and has no seasons. That is why Quito on the plateau has an eternal spring. The eastern lowlands have a steaming, unhealthy, malarial, equatorial climate.



Map 31 : Ecuador

In the coastal plains, farming is an important activity. Rice, banana, cotton, sugarcane and cacao are raised. In the *templada* zone of the hills, coffee is an important plantation crop. The eastern lowlands are covered by dense selvas jungles.

A number of minerals like gold, silver, lead and zinc are mined in small quantities with great difficulty. Mineral oil is also drilled in the coastal areas.

Dairying is an important source of income in the plateaus.

The six million people of Ecuador live mostly in the mountain zone with its pleasant climate, and in the coastal plains. The eastern plains are practically empty. Farming is the main occupation, though dairying and gathering of forest ,products are other activities. The American Indians are the people of Ecuador, and Spanish the national language. The plateau Indians engage in an important rural household industry, namely the manufacture of 'panama' hats out of the fibres of a local palm.

Quito is the capital located on a picturesque plateau adjoining the high peaks of Chimborazo and Cotopaxi and numerous volcanoes. It is constantly liable to earth tremors. *Guayaquil* is the port connected with Quito by a mountain railway.

The major exports of Ecuador are all farm products—cocoa, coffee and banana. Imports are textiles and other consumer products.

(ii) Peru

Like Ecuador, Peru falls into three physical units : a Pacific coastal strip, about 120 kms. wide; the *Sierras* or uplands of the Andes that consist of three parallel ridges with deep valleys in between converging into one towards the south; and, the *Montana*, a part of the upper Amazon lowlands. Lake *Titicaca* lies at the southeast border of the country, between Peru and Bolivia.

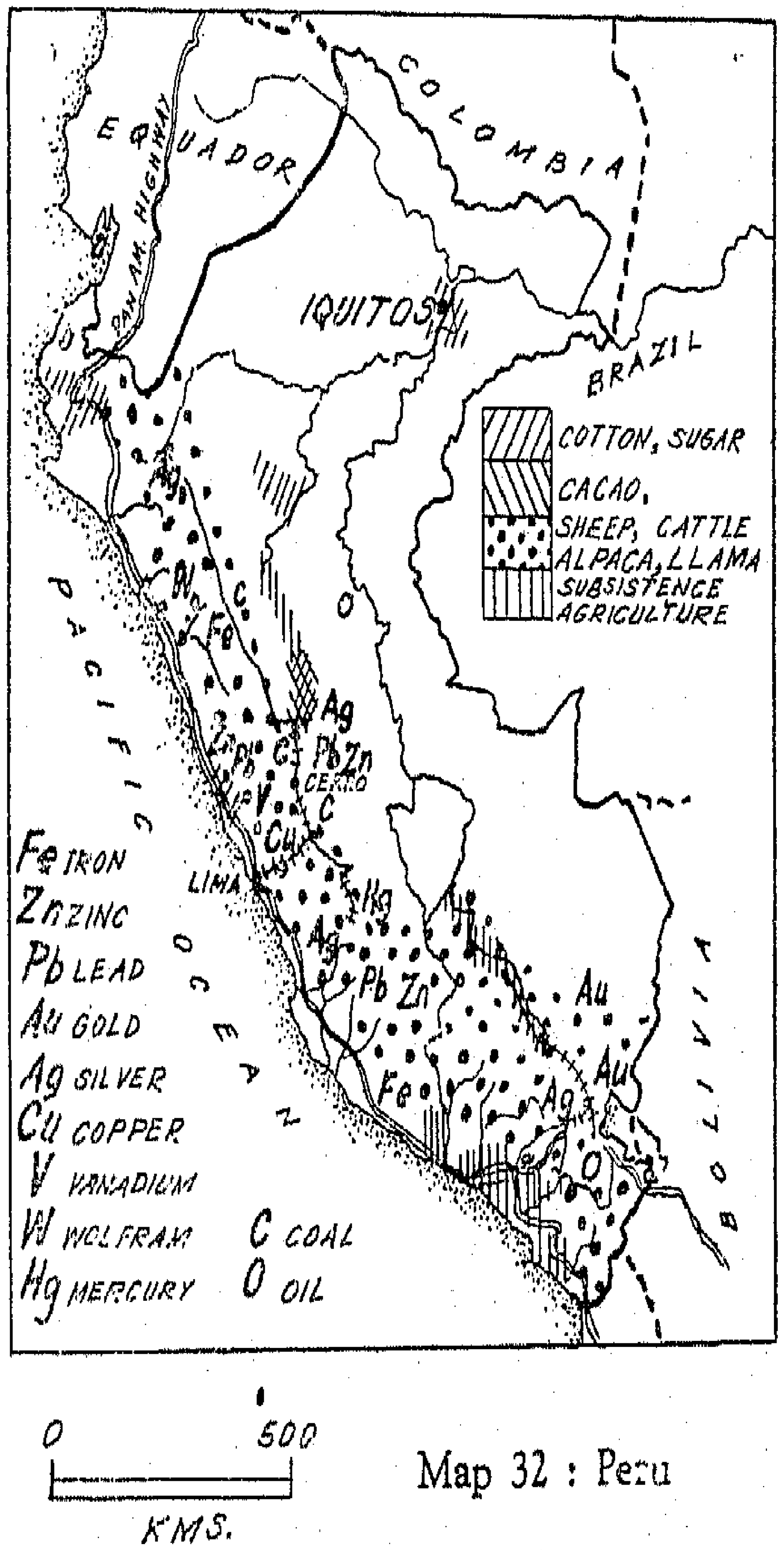
The source streams of the Amazon rise in the Sierras of Peru. The *Maranon* the *Ucayali* and their tributaries, the *Huallaga* and the *Apurimac* rise in the central and southern parts and flow north to converge into a single stream, the *Amazon*, that flows east through the Montana.

While the Sierras and the Montana have a tropical rainy climate, the Pacific coastal region has a dry desert climate with scanty rains on account of the cool currents of the ocean nearby and offshore winds.

The *Montana* is covered by *selva* forests. Hardwoods and rubber, besides gathered forest products, are its main products. Nomadic *Iquitos* live here in scattered groups. Nowadays, the forests are being cleared and farming introduced. Iquitos on the banks of the Amazon is the main town of the area. Small

sea-going vessels sail up the Amazon upto Iquitos. Relations of the Montana region of Peru with external world are through the Amazon river over a long distance and not across the Sierras and the Pacific coast.

In the *Sierras*, farming is restricted to valleys where food crops like wheat, maize and potatoes are grown to a small extent to feed the local people. Grazing herds of sheep, llamas and alpaca is a more important occupation. Wool gathering is the main home industry. Mining is by far the most important activity in this region of Peru. Copper is the most important mineral mined at *Cerro de Pasco* at a height of 5000 m. above sea-level. Diamonds are obtained near *Cuzco*, nepheline near



Map 32 : Peru

Puno, and coal near *Oroya*. Silver, lead, zinc antimony and tungsten are also mined.

In the dry coastal strip, agriculture is done in valleys of rivers with the help of irrigation. Almost all farmlands of Peru are in the coast; barely 1½ per cent of the land of Peru is under cultivation. Coffee plantations and vineyards are on the hill slopes. Sugarcane and cotton, besides rice and other foodcrops are grown in the valley bottoms and flat lands.

The coastal area is also rich in some minerals. Mineral oil is drilled in the northern parts and exported to the west coast of U.S.A. Iron ore is mined near the coastal town of *Chimbote*. *Guano* fertiliser product is obtained from the southern deserts.

Fishing is another major activity along the coast. Peru is the largest fishing nation of the world, at present catching about 8 million tons of fish per annum in the coastal waters.

In the last few decades, a number of industries have sprung up in coastal Peru. There is a steel plant at *Chimbote*. At Oroya, there are copper smelters. Oil is refined along the north coast. There are some textile mills and fertiliser plants.

About 12 million people live in Peru. They are of Spanish and Indian origin. They live mainly in coastal areas, and in the mining towns of the Sierras.

Lima is the capital city. It is a modern town. About 12 kms to its west is the port of *Callao*. *Mollendo*, *Pisco*, and *Chimbote* are the important ports. *Cuzco* is an ancient town with 'inca' ruins. *Puno* is a town on the lake Titicaca. *Arequipa* is a town in the foothills.

Peru has a better developed system of railways than many other states of South America. This is on account of its mineral interests. The Lima-Cerro de Pasco railway has as many as 61 tunnels in its short stretch. Another railway from Mollendo on the south coast climbs the Andes near Arequipa and reaches upto Cuzco. The *Pan American Highway* runs along the coastal towns.

Peru exports mineral ores, oil, fertilisers, coffee, sugar and cotton. The imports are mainly wheat and other foodstuffs and mining machinery. The trade is mainly with the U. S. A.

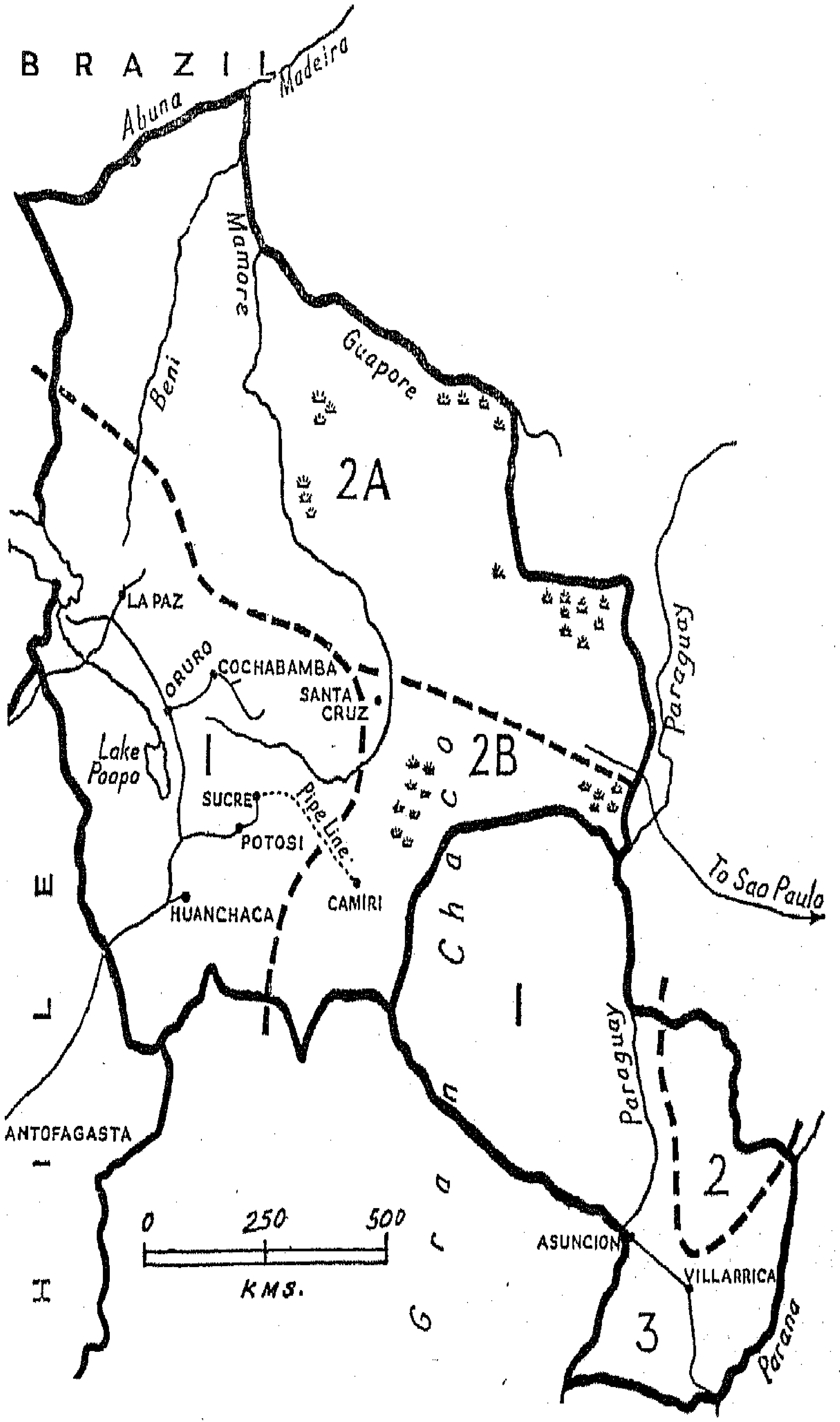
(iii) Bolivia

Bolivia is a high plateau called the *altiplano* lying at heights above 4000 m. enclosed within the two huge chains of Western and Eastern Andes. In the east, the country includes lowlands, that form part of the Amazon lowlands in the north and the *Gran Chaco* in the south. The Bolivia plateau is an inland basin draining into the *Lake Titicaca* on its western border. Lake Titicaca itself drains into *Lake Poopo* around which there are marshes. Bolivia has no sea-coast.

The plateau is dry in the western parts. Eastwards, the rainfall increases and the eastern lowlands have a hot, wet, unhealthy climate. The climate on the plateau is cool, due to elevation.

Mining is the most important activity on the plateau. Tin is the most important mineral mined at heights between 4000 and 6000 m. and transported with great difficulty through aerial ropeways to the ports of Peru (Mollendo) and Chile (Arica) for export. Besides tin, copper, lead, zinc, silver, tungsten and antimony are mined. Most of the plateau towns, like *La Paz*, *Oruro*, *Potosi* and *Sucre* are all mining centres. Mineral oil is also drilled along the northwestern and southen boundaries.

Besides mining, sheep and cattle rearing and forestry are important activities on the plateau. The lowlands, till recently, were covered by jungles and tall grass-cover but recently, farming has been introduced. Rice sugarcane and cotton are grown for export. *Santa Cruz* is the only town of these lowlands.



Map. 33 ; Bolivia, and Paraguay—Divisions.
Bolivia 1. The 'Altiplano' Plateau : 2A=Amazon lowlands; 2B—Chaco lowlands. Paraguay—1. Chaco lowlands; 2. Brazil Plateau; 3. Paraguay lowlands.

Coffee, vine and cacao are grown on hill slopes.

Nearly 4½ million people live in the mining areas and the farming lowlands of Bolivia. **La Paz** is the administrative capital, while *Sucre* is the legal capital.

La Paz is connected by railways to the ports, Arica and Antofogasta of North Chile as well as Buenos Aires in Argentina. Another railway runs from La Paz through *Cochabamba* and *Santa Cruz* to Corumba, Sao Paulo and Rio de Janeiro in Brazil. Lake Titicaca is used for internal navigation between Bolivia and Peru. Otherwise, over the plateau, the *llama* is the beast of burden.

The trade of Bolivia is mainly with the U S.A. It exports minerals, rice, sugar, cotton and timber. Imports are textiles, foodstuffs and industrial supplies.

Exercises

1. Give an account of the mineral-wealth of the Andes region.
2. Explain why the lowlands in Ecuador, Peru and Bolivia to the east of the Andes are not well developed.
3. Compare the occupations of the people in the three main physical units of Peru.
4. Comoare the exports of Ecuador and those of Bolivia. Explain the differences.
5. Give an account of the railway development in the countries of tropical Andes.
6. State what and where the following are :
   Altiplano; Sierras; Maranon; Titicaca; Montana; Chimbote.
7. Fill in the blanks with suitable words :
   (i) Manufacture of Panama hats is the main rural industry in______.
   (ii) ______ is the main port of Ecuador.
   (iii) Copper smelting in Peru is done at______.
8. Give reasons for the following :
   (a) Ecuador is so called.
   (b) Iquitos is an important river port of Peru.
   (c) Bolivia sends her mineral products to North Chile.

Project Work

1. *Collect pictures and information through your history teacher about the Inca civilisation of Peru.*
2. *Gather material regarding the following : Llamas; Panama hat manufacture, life of amerindians.*
3. *Gather information regarding difficulties of railways in the Andes region.*

CHAPTER 9

BRAZIL

With an area of 8·5 million sq. kms., Brazil is the largest South American country. It is nearly 2·5 times the size of India. It is also the most developed region of South America.

Discovered by *Cabral* in 1500 A. D., Brazil is made up of all the Portuguese speaking territories of South America. It is a federal state made up of 22 states and five federal areas.

Brazil almost entirely lies within the tropics except for the southeastern parts beyond the Tropic of Capricorn. The northern and western parts of Brazil fall within the Amazon lowlands, an area within 200 m. above sealevel and drained by the mighty Amazon and its huge tributaries. To the south of these lowlands lies the plateau of Brazil or *Mato Grasso* at a height of 200 to 1000 m. The highest parts of the plateau are close to the eastern, Atlantic coast. Here they form the Brazilian highlands, at heights of about 1000 m. or more, and run parallel to the shores. Like the Western Ghats of India in Konkan, they rise abruptly at a short distance from the seashore through steep slopes, to present a steep slope and mountain appearance from the seaside. After reaching the crest of the highlands, one can see the plateau sloping gently westwards, very much as Deccan slopes eastwards from the Ghats.

Between the plateau rim and the Atlantic shores in the northeast and southeast, there are narrow coastal lowlands, that are nowhere more than 200 kms. wide.

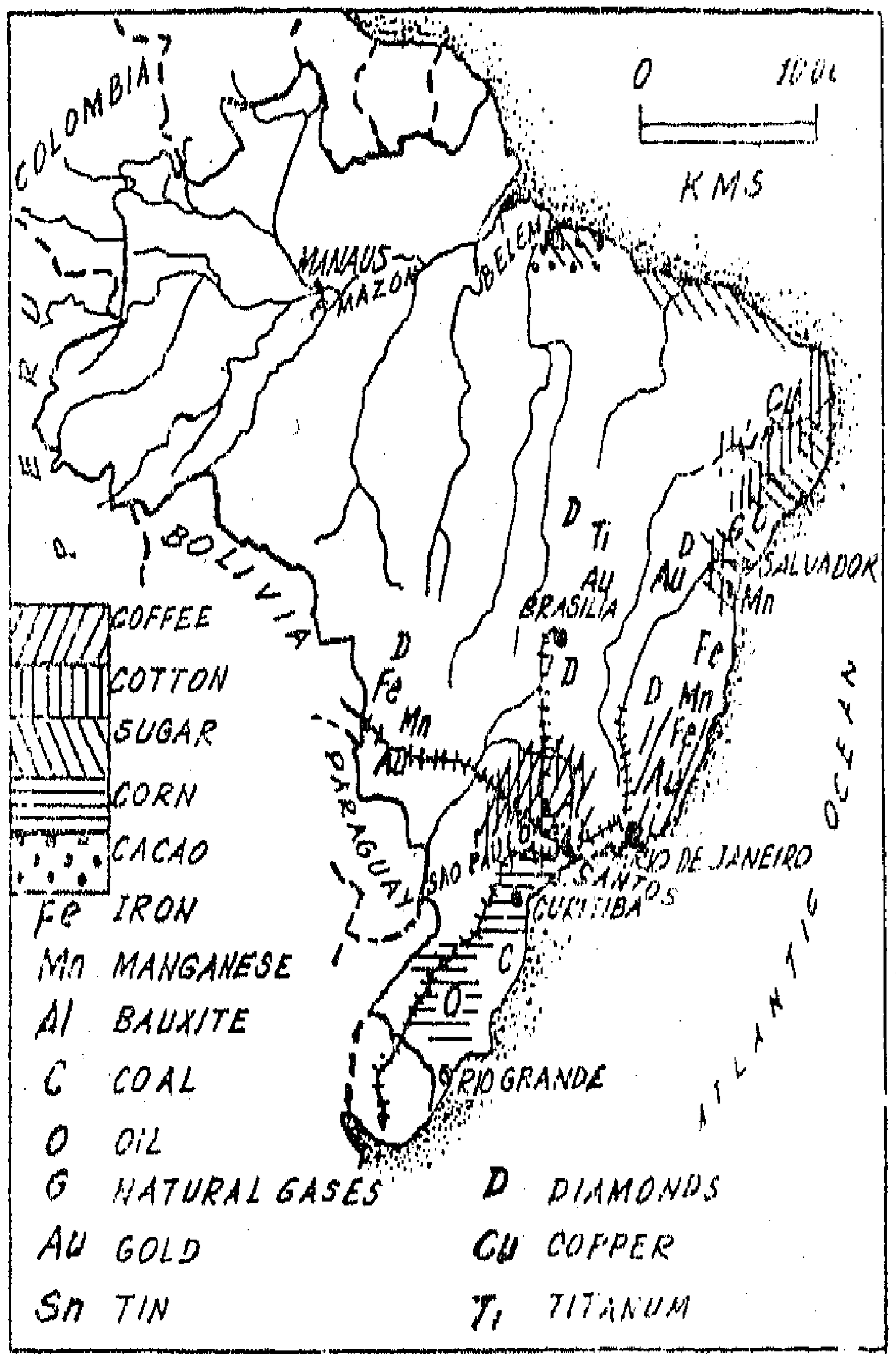
Apart from the *Amazon* and its tributaries in the north, the plateau of Brazil is drained south by the

Plate river system. Both the *Paraguay* and the *Parana* rise in the plateau and flow south. Besides, a large number of swift and short streams rise in the eastern high rims of the plateau and flow east to join the Atlantic. These rivers, when they descend from the plateau, form waterfalls or rapids that are used to generate electricity. Of these rivers, the *Sao Francisco* is the most important. It rises in the southeastern part of the plateau, flows north and then turns east to enter into the Atlantic.

The Amazon lowlands lie just south of the Equator. They have an equatorial, hot wet type of climate. It rains heavily throughout the year during afternoons due to convection. The rainfall is heaviest in March and September. The entire lowland is covered by luxuriant '*selva*' forests that have many useful trees like cedar, mahogany, cinchona, rubber, quebracho and others. The forest trees are cut and the timber is transported through the Amazon or one of its tributaries like the *Maranon, Negro, Mediera, Xingu* and others to the port of Belem at the mouth.

The interior of the forest is dark, gloomy and damp; the forest floor itself is marshy in many areas. The forests are full of insect and mosquito life, huge reptiles and poisonous snakes and pythons, monkeys, sloths, treebats, and a variety of colourful birds like the parrots, macaws, toucans and others. The rivers are full of fish life and alligators.

Very few people live in the forest interior. Not even one person per sq. km. lives in these forests. The people are native Indians and negroes They mostly live in riverside villages that have a group of huts built on raised ground, cleared of forest. They grow in cleared patches of land bananas, yam, sweet potato and tapioca. They do fishing in rivers and move about in canoes dug out from tree trunks. The men of these tribes go into the forests and collect forest products like rubber, latex, balata, a juice from a tropical tree, sarsaparilla, cinchona and quebracho barks and brazilnuts besides other forest products.



Map 34 : Brazil

Life of these forest gatherers is extremely difficult, because these forest trees yielding useful products are scattered within the dense jungle which are difficult to penetrate and pass through. The climate is highly malarial and takes a heavy toll on life. The forest is full of deadly insects and poisonous snakes. The river banks are marshy and often difficult to pass through.

The only way to enter into these forests is through the rivers which act as the main means of transport. Because the whole area is practically empty, and the forest resources are not fully used, the river system has not yet been fully used. The Amazon is navigable for small vessels upto Iquitos, more than 5000 kms. away from the sea. Large ships reach upto Manacs, about 1500 kms. from the sea, on the River Negro, a large tributary of the Amazon.

Manaos is the only town of these lowlands. It is a river port and market for the forest products. *Para* or *Belem* is the port on the mouth of the Amazon through which the forest products of Amazon lowlands are exported. Rubber, balata, cocoa and brazilnut are the main exports through Belem.

The Brazil plateau to the south of the Amazon lowlands has a more healthy climate, thanks to its elevation. It rains mainly during the summer and the rainfall is moderate. The hillsides are covered by deciduous forests, but the plateau land is covered by savanna type of grasslands, and hence the name '*Mato Grasso*' which means tall grass. These grasslands of Brazil are known as the '*Campos*'. Till a few decades back, these grasslands were practically unused. Nowadays, Brazil is the largest livestock farming country in South America with huge cattle and sheep ranches and pig farms. Cattle are more important in the moister south and southeast. Meat packing industry is well developed in coastal towns of the southeast like *Rio Grande* and *Porto Alegre*. In the past, Brazil used to export meat but at present most of it is used in the home markets.

Mining is another important activity in the plateau of Brazil. The old rocks of the plateau are rich in a variety of minerals. *Minas Gerais* (meaning 'mines of all kinds') is the notable mining district. Iron ore is mined near *Itabira* and is sent to the steel centres nearby, namely *Volta Redonda* and *Neves*. Diamonds, are mined near *Diamantina*. Coal is mined in the south-eastern highlands but is not enough for the industries of the country. Therefore, coal is imported from the U. S. A. Gold is mined in almost every state in the country but comes mainly from Minas Gerais. Manganese, mica, chrome ore, asbestos, silica, graphite, beryllium, magnesite and tungsten are also mined in large quantities. Brazil has the largest reserves of iron ore in the world, but much of it lying in the interior is not yet used.

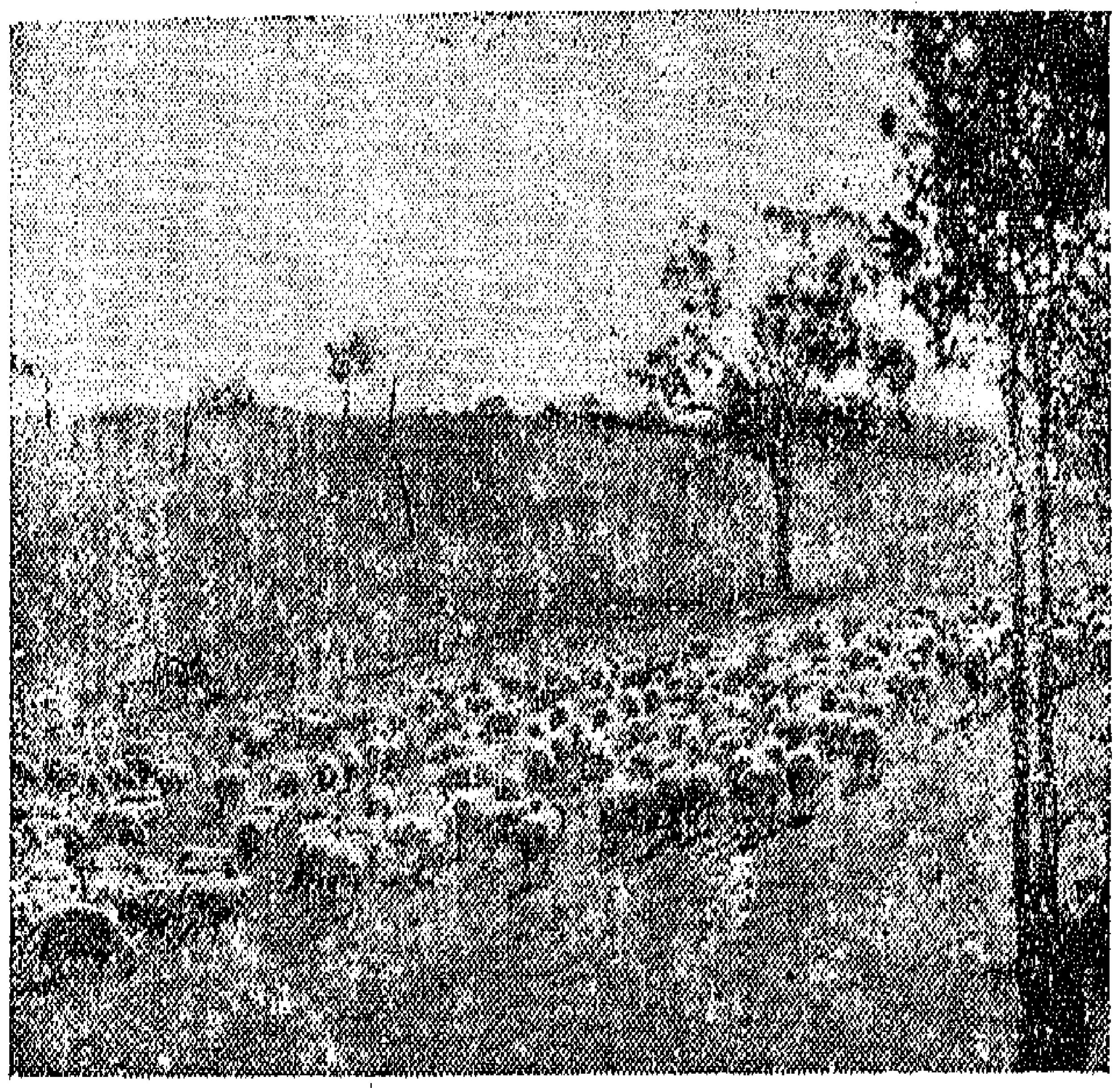


Fig. 6 : A Sheep Ranch in Brazil

Most of the interior of the plateau is uninhabited and awaits future development and settling. All towns in the plateau are mining towns. *Belo Horizonte*, the chief town of Minas Gerais, *Itabira, Volta Redonda* and *Curtiba* are the main towns.

The northeast and southeast coastal lowlands of Brazil support the bulk of the 87 million people of Brazil Farming is the main activity here, though zircon and monazite sands are obtained from the coastal sands. Numerous dams have been built in the drier northeast coast and the water is used for irrigation. In the northern lowlands to the east of the Amazon mouth, sugarcane, rice and cotton are the main crops. In the Sao Francisco valley and the coast nearby, cocoa and tobacco are the main farm products, though sugar and tropical fruits are also important.

In the southeast coast and the highlands immediately backing this coast, coffee is the main crop. Brazil grows nearly half the coffee production of the world. Coffee is grown in large estates or '*fazendas*' with the help of immigrant Italian labour. It is grown mostly in well watered, sheltered valleys on slopes between 600 and 1200 m., though poorer grades of coffee are grown in higher elevations. *Sao Paulo* and *Minas Gerais* are the main coffee districts, and Sao Paulo the main collecting and roasting centre for coffee beans. Coffee is exported through the ports of *Santos* and *Rio de Janeiro* that lie close to Sao Paulo and are connected with it by specially erected 'coffee-railways'.

Apart from coffee, sugarcane, tobacco, rice and cotton are grown. Tropical and subtropical fruits are also grown.

The people of the region are of mixed descent and are from Italy, Portugal and Spain. African negroes and native Indians are also large in number. *Sao Paulo*, about 900 m. above sea-level is the biggest industrial city of South America with a population of 4 millions. Its industries produce chemicals, machinery, tractors, typewriters, radio and television sets and electrical equipment. It is also the largest coffee market of the world. It is the biggest railway terminal of South America from which railways radiate westwards to Corumba and La Paz, southwards to Buenos Aires and Monte Video, southeastwards to Santos, northwards to Brasilia, and northeastwards to Rio de Janeiro and the northern ports of Brazil. An excellent highway connects it with Rio de Janeiro and Monte Video.

Brasilia is the new capital of Brazil and a modern town built in the interior of the plateau.

Rio de Janerio, with a population of 3 millions is a very fine port, that handles nearly three-fifths of the export trade of Brazil. Its exports are coffee, cotton, cocoa and minerals. Its harbour lies behind a rocky headland known as the *'sugar loaf'*. The city has many industries, mainly sugar refineries, cotton goods, footwear, chemicals, steel goods and cigarettes.

Santos is another port, about 30 kms. from Sao Paulo. It handles most of the coffee export.

Further north of Rio de Janeiro are the ports of *Salvador* (formerly known as Bahia) and *Recife* (formerly called Pernambuco) that export cocoa, sugar and tobacco from the Sao Francisco valley. The port of *Natal* further north is the nearest to Europe, at a distance of 5000 kms. It exports cocoa and rubber, besides rice.

Exercises

1. Answer the following :
   - (a) Why is life in the Amazon lowlands difficult ?
   - (b) Why are the Amazon lowland and Mato Grasso plateau thinly peopled ?
   - (c) Which are the main livestock rearing regions of Brazil?
   - (d) What is a fazenda ? Where are fazendas found ?
   - (e) Name the major ports of Brazil and their exports.
2. Write an account of the mineral-wealth of Brazil.
3. On a map of Brazil, mark the major farming regions of Brazil and state their agricultural products.
4. State the location and importance of the following places in Brazil : Porto Alegro, Manaos, Recife, Rio de Janeiro, Sao Paulo, Volta Redonda.

Project Work

1. *On a map of Brazil, mark the main forest areas, grasslands, mining regions, coffee estate areas and croplands.*
2. *Write a letter to your friend about (i) life in the Amazon forests; (ii) life in the coffee plantation area.*
3. *Gather pictures of plant and wild life in the Amazon lowlands.*

CHAPTER 10

THE PLATE RIVER COUNTRIES AND CHILE

The Plate River countries and Chile lie in temperate South America. They are mainly farming and pastoral Countries. These are the only countries where the British people have settled down in South America.

The Plate River countries include *Paraguay*, *Uruguay* and *Argentina*. These countries lie to the east of the Andes. Chile is the only country of South America that lies entirely to the west of the Andes, facing the Pacific. These countries mainly export grains and pastoral products and import textiles and manufactured goods. Unlike Brazil and Tropical Andes these countries are not rich in minerals.

(i) Paraguay

Paraguay (see map 33) is a small country that lies to the southeast of Bolivia and southwest of Brazil. Like Bolivia it is an inland country without a seacoast. It is almost entirely a lowland except in the northwest where the plateau of Brazil ends. The river Paraguay runs north to south through this country dividing it into two halves. The western part is a part of the *Gran Chaco* and is mostly forested. It is a hunting ground with summer rainfall. *Quebracho* bark collection and lumbering are important activities here. To the east and south of the river are the main farmlands which grow sugarcane, cotton, rice, maize and yerba mate, out of which a local drink like tea is made. Cattle are also kept here for beef production.

Paraguay does not mine minerals. There are no major industries except flour mills and leather factories. About two million people live in Paraguay.

Asuncion on the banks of Paraguay is the capital. Small ships can sail upto Asuncion from the sea. Asuncion is also connected by railways to Buenos Aires.

(ii) Uruguay

Uruguay is a small country that lies between the Uruguay river and the Atlantic ocean. It lies south of Brazil.

Uruguay is almost entirely lowland and forms part of the Pampas grasslands. It has hot summers and warm winters. It rains throughout the year, but more in summer.

Uruguay is a stock-raising country with twenty-three million sheep and eight million cattle. Lucerne and alfa-alfa grasses are grown to feed the livestock. Besides stock raising, maize and wheat are also grown.

About three million people live in Uruguay; a third of them live in the capital city, **Monte Video,** which is also a port and industrial centre known for its slaughter-houses. Meat, wool and hides are the chief exports of Monte Video. *Paysandu* is a river port in the interior and a meat-packing centre.

Though Uruguay is small, it is a prosperous land because it has productive soils and a delightful climate.

(iii) Argentina

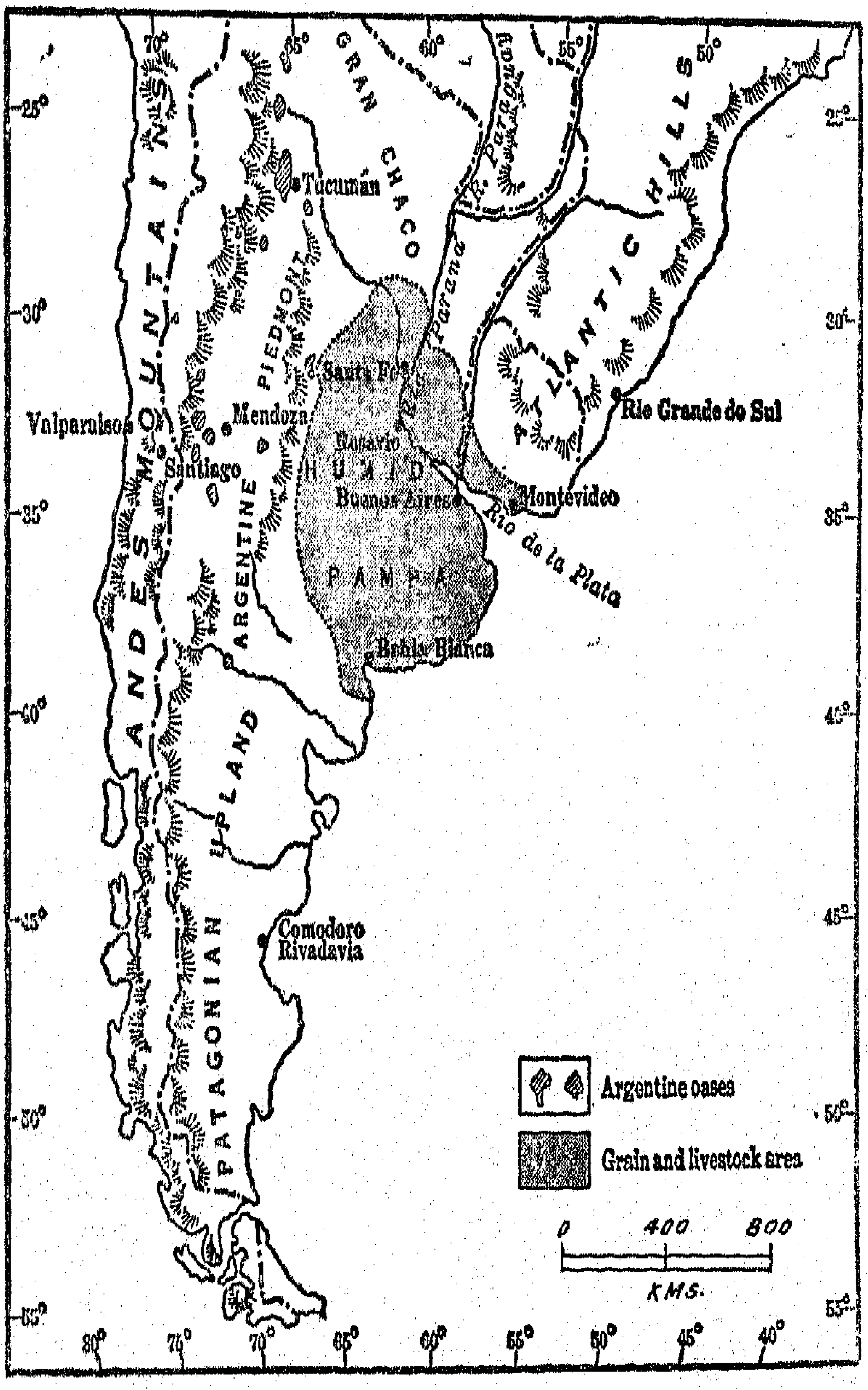
Argentina is a large country that extends from 22° S. to 54° S. It enjoys a subtropical climate in the north and a temperate climate in the south. The Andes forms its western boundary.

Argentina falls into the following natural divisions :

(a) *The Plate River Lowlands,* that adjoin the lower river valley and estuary of the Parana, Paraguay and Uruguay rivers; (b) The low plateau of *Patagonia* in the

south; (c) the foothills of the Andes in the west and, (d) the *Gran Chaco plains* of the northwest.

The Plate river lowlands are the most productive and densely peopled regions of Argentina. From Buenos Aires on the estuary of the Plate river, these lowlands form a semicircle, about a thousand kms. in diameter. From Bahia Blanca to the south of Buenos Aires, to Santa Fe on the Parana, it is a flat slopeless grassland



Map 35 : Relief Map of Temperate S. America, showing the major farming and pastoral areas covered by excellent pastures. Here, close to the coast, cattle are reared in large number. Farther inland are the main sheep rearing areas. The pampas, however, suffer from shortage of water-supply during the dry season. These regions produce beef, mutton and pork in such large quantities that the meat products are chilled and exported in large quantities to Europe.

This region is also the main grain farming belt of Argentina with wheat, maize and sugar beet as the main crops. Oats, rye and barley are also grown to feed the livestock.

Most of the twenty-three million people of Argentina live in this fertile economic crescent. Many industries based upon animal and agricultural products have developed—such as flour-milling, slaughtering, meat packing and wool industries. Fish canning is also important along the coast.

Buenos Aires, the capital of Argentina, is a city with a population of three and half millions. It is located on the southern end of the Plate River estuary. Its waterfront is lined with warehouses, grain elevators, flour mills and freezing works. *La Plata* is another port of the estuary that exports grain and meat. It manufactures wind pumps and refines mineral-oil. Still further south, at the southern end of the Pampas, is the port of *Bahia Blanca* which is a flour mill centre and a grain exporter. *Rosario* is a tidal port on the river Parana. It is the main outlet for maize and wheat growing regions of Argentina.

To the south of the Pampas lie the sand and shingle deserts of Patagonia. Till recently, very few people used to live here, hunting foxes and ostriches. In the last few decades, sheep and goat rearing

have grown considerably in importance in Patagonia. *Bahia Blanca* is the main collection centre for the wool and goatskins of Patagonia. Recently, some oil has been found along the coast of Patagonia near *Rivadavia*.

The foothills of the Andes to the west of the Pampas is a dry region. Many of the snowfed streams have been dammed, to supply water for irrigating farmlands. On the sunny hill slopes, vineyards and sugarcane plantations are located. *Mendoza* is the main grape growing and wine producing centre of Argentina. Many subtropical and temperate fruits are also grown in this area. Of them plums, peaches, citrus, apricots, oranges and cherris are important. Cattle and horses are also reared.

Further north are the *Gran Chaco plains* which are mostly jungleclad. The woodlands are being cleared and brought under sugarcane and maize cultivation. *Tucuman* is the main town of this area. *Cordoba* at the southern end of this region is a cultural and university town.

Argentina is not very rich in minerals. Oil is drilled in a number of places in the foothills of the Andes and sent by pipelines to Bahia Blanca.

Small quantities of gold, copper, tin, tungsten and manganese are worked in the west. Argentina lacks in coal and iron ore. However, steel mills have been established near *Rosario* with the help of imported iron ore and coal.

Argentina has 4000 km. of railways, which radiate from Buenos Aires outwards in all directions. The main transcontinental railway runs from Buenos Aires through Rosario and Cordoba to La Paz in Bolivia and then across the Andes to north and central Chile. Another railway link from Buenos Aires runs through Mendoza and *Uspallata Pass* to Valdivia in Chile.

Railway lines now run from Buenos Aires through Bahia Blanca to *San Carlos* in the Andes; this line is expected to be extended to south Chile across the southern Andes. Excellent highways also run from Buenos Aires to Chile, Bolivia, Uruguay and Brazil. Thus, Argentina is best served by railways and roads among the South American nations.

(iv) Chile

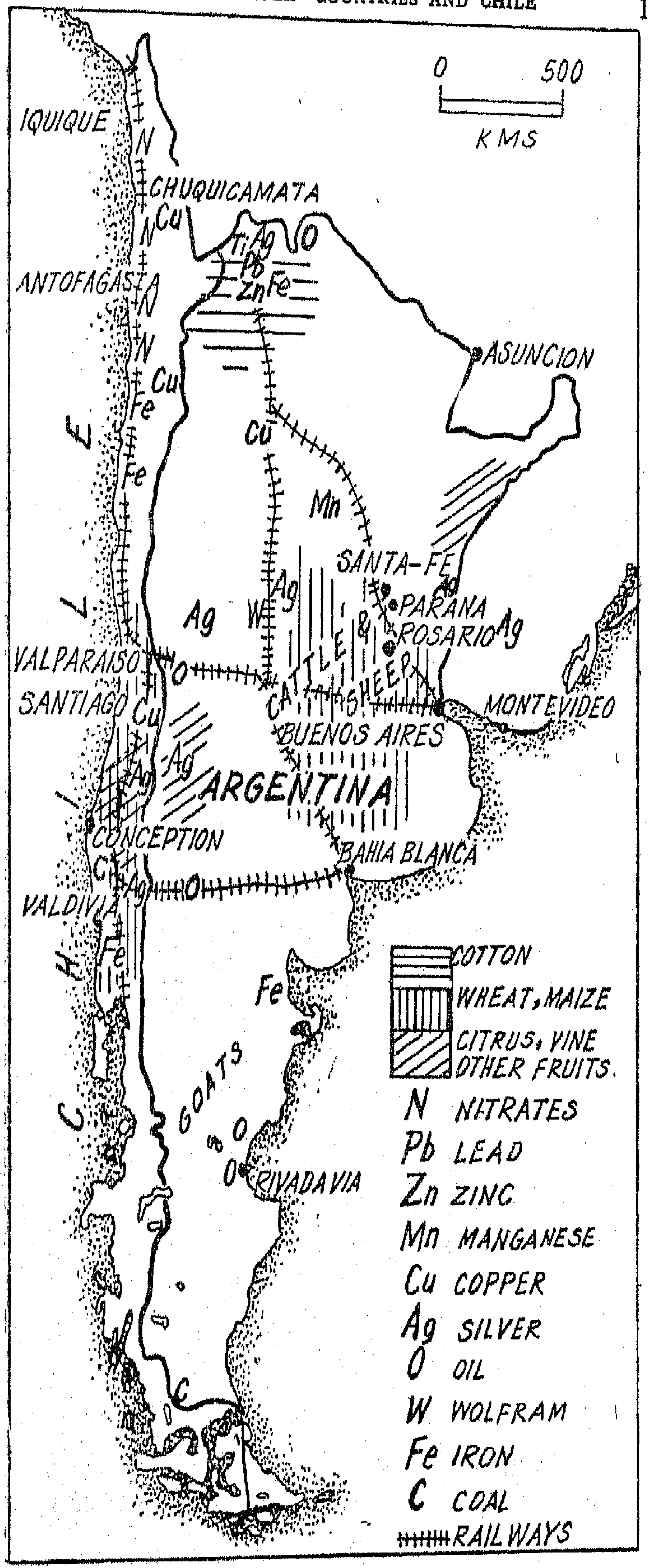
Between the Pacific Ocean and the Andes mountains lies the long, narrow republic of Chile. Its length exceeds 4500 kms., but nowhere it is wider than 150 kms.

Longitudinally, Chile falls into three physical units:

A long coastal range runs along the seashore and extends into the numerous islands of South Chile. The coast of S. Chile is full of fiords. Along the eastern boundary of the country, the Andes mountain chain rises to great elevations to form snowclad peaks. Between the coastal range in the west and the Andes in the east, there is a narrow, elongated, central valley. Low hills further subdivide this valley.

Because of its great latitudinal extent from 18° S. to 54° S., Chile has a variety of climates. On the basis of climate, Chile can be divided into three regions, north to south. *North Chile* is a tropical desert known as the *Atacama Desert*. It has scanty rains and an extreme tropical climate. *Central Chile* has a 'Mediterranean' climate with hot dry summers and mild wet winters. *South Chile* has a cool temperate, rainy climate with rainfall throughout the year.

North Chile is a dry desert, but is the only region which is rich in minerals. Two minerals, nitrates and copper, are responsible for a number of mining towns in this waterless desert. Lack of rain has helped in



Map 36 : Argentina and Chile–Resources

preserving the nitrate deposits on the surface. The nitrate is removed and sent by rail to *Iquique* and *Antofagasta* for being exported. It is a very valuable fertiliser. Copper is mined near *Chuquicamata* and loaded into ships at Antofagasta. Iron ore is mined near *La Serena*. This ore is sent to Central Chile for the steel mills. *Antofagasta* is the main town of North Chile. Except in the mining towns, very few people live in North Chile.

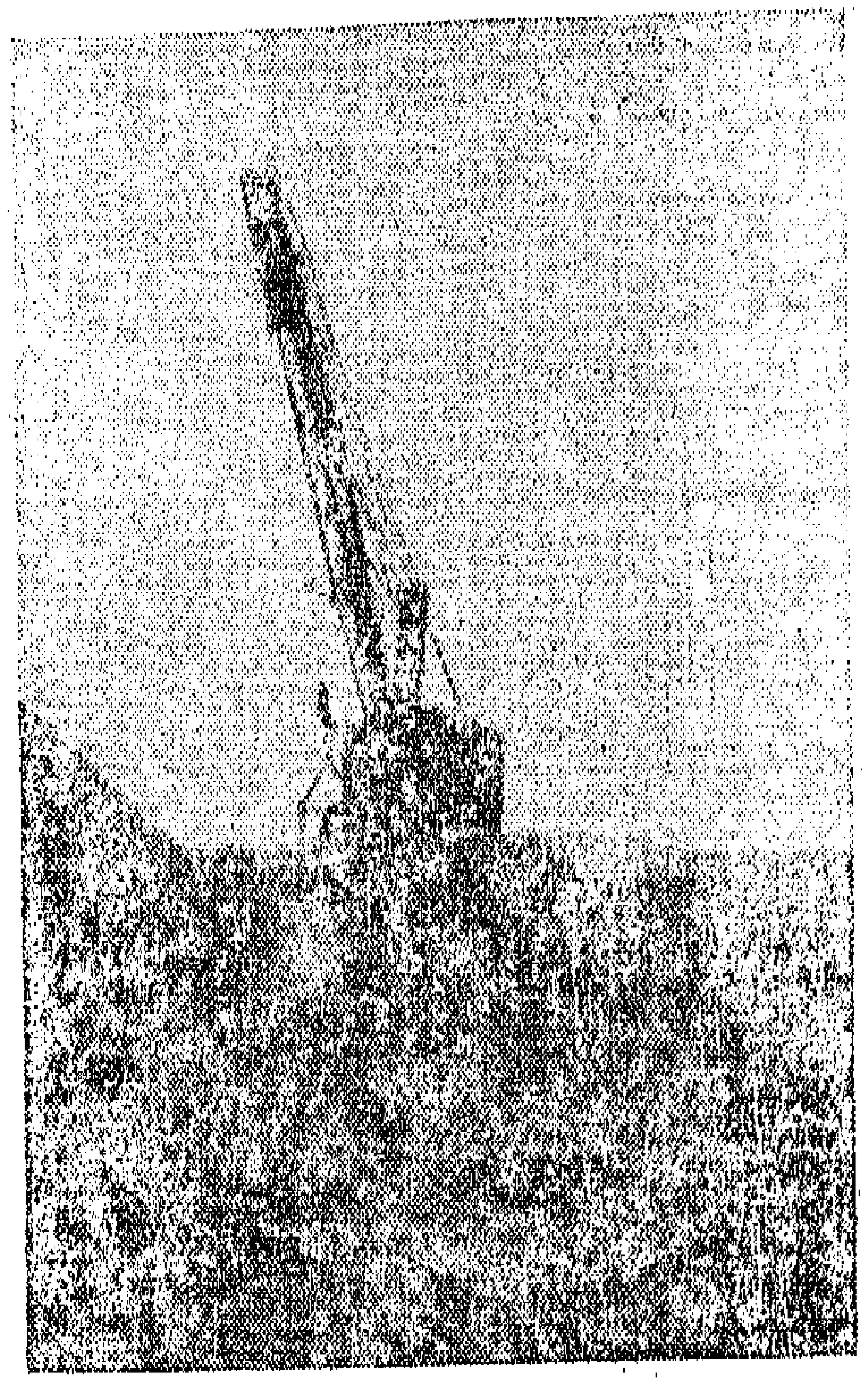


Fig 7 : Removing nitrate deposits, N. Chile

Central Chile is the most densely peopled region of the country because of its excellent sunny climate and rich agricultural lands. The coastal range and the Andes are covered by evergreen forests, in which oak and other valuable timber are obtained. In the central valley of Chile, the hill slopes are studded with orchards and pastures. Apples, pears, plums, apricots, grapevine, olives and lemons are grown. In the valley bottom, the winter rainfall helps cultivation of wheat. In the mountain pastures, sheep are reared for wool and mutton, and cattle for beef and dairy products. There are no minerals in Central Chile except for small coalfields on the coast.

Indsustries are developed with the help of waterpower. Steel works are located near *Concepcion* and *Valdivia*. A large steel plant has also been set up at *Huachipato*, where locally coal is mined. Fruit canning is another important industry of Central Chile. **Santiago** is the capital of Chile that lies in the central valley. Close to it is the port of *Valparaiso*. Concepcion and Valdivia are other ports.

Most of the eight million people of Chile live in the central valley.

South Chile is very narrow and is full of small rocky islands and deep fiords. The region, because of temperate coastal climate, is covered with coniferous forests. These forests however are not much used because of difficulty of access. Lumbering, sheep rearing and fishing are the main activities of the few people who live here.

Along the extreme southern end of Chile are *Tierra del Feugo* and *and Falkland Islands.*

Both these areas are mainly sheep rearing regions and whaling countries.

Chile has mainly a south to north railway, running through the length of the country from Valdivia in the south through the central valley to the northern ports and then onto Bolivia. The Pan American Highway also runs along the same route.

The exports of Chile mainly consist of copper and nitrates, timber and Mediterranean products. Imports are textiles and machinery.

Argentina, Brazil and Chile are the three progressive countries of South America that are often known together as the A-B-C *countries* of South America.

Exercises

1. Answer the following :
   - (a) Why are the Pampas considered to form the economic crescent of Argentina ?
   - (b) Compare Paraguay and Uruguay as regards their location, climate and products.
   - (c) Divide Chile into physical and climatic units.
   - (d) Name the major sugarcane and fruit-growing regions of Argentina. Explain why these regions grow them.
2. Give reasons for the following :
   - (i) Lack of rain is a gift of North Chile.
   - (ii) Monte Video and Buenos Aires are slaughter-house centres.
   - (iii) The forests of South Chile are not much used.
3. On a map of temperate South America, mark the the major railways, that cross the Andes and the important railway towns along them.
4. State the location and importance of the following towns : Asuncion, Monte Video, Rosario, Mendoza, Antofagasta, Valdivia.

Project Work

1. *Draw a map of Argentina and mark on it the Pampas, Patagonia, the Andes and the Gran Chaco. Mark the region producing wheat, maize, cattle, sugarcane, oil and fruits on the map.*
2. *Suppose you go on a river journey from Buenos Aires upto Asuncion. State the regions and towns through which you will pass and the products of the various regions.*
3. *The Buenos Aires–Valdivia Railway passes through a number of countries and varied regions. Make a table of the regions and the countries through which the railway passes, some important towns of each region and some important products.*

REVISION EXERCISES—II

1. State why the following are so called. Mention their location in South America.
   (a) Ecuador; (b) Altiplano; (c) Mato Grasso; (d) Montana; (e) Guiana.
2. State what the following are, their location and any one important fact associated with each.
   (a) Maracaibo; (b) Atacama; (c) Llanos; (d) Selvas; (e) Titicaca; (f) Aconcagua; (g) Patagonia; (h) Guadalquivir.
3. Name the following :
   - (a) The states of South America that lie inland.
   - (b) Any two capitals of South American countries that are also ports.
   - (c) A country in South America that has coastline both on the Atlantic and the Pacific.
   - (d) Any two towns within the tropics that have perpetual spring.
   - (e) The coffee-port of Brazil and the nitrate-port of Chile.
4. Match the following :

List A	**List B**
1. Volta Redonda 4	1. Copper Mines
2. Diamantina 8	2. Meat-packing centre
3. Chuquimata 1	3. Vineyards
4. Potosi 4	4. Steel Mills
5. Iquitos	5. Oil-drilling centre
6. Mendoza	6. Rubber collecting port
	7. Silver and tin Mines
	8. Diamond Mines.

5. Name all the major coffee, cocao and wheat growing regions of South America. State why they grow in them.
6. State one leading port exporting each of the following commodities in S. America—Chilled beef; Rubber; Coffee; Cocoa; Sugar; Oil; Tin; Nitrates; Tropical timber; Emeralds; Rice.
7. If you fly from Venezuela to Patagonia, state the climatic regions over which you will fly. Name one major product and one major town for each of the regions.
8. Compare the Orinoco, the Amazon, and the Plate River as waterways for transport.

9. Why are South American countries called 'Latin American' countries ? Name the countries in which Spanish, Portuguese are spoken by majority.
10. Which parts of South America are thinly settled and why ?
11. If you are to settle in South America, which part will you choose ? Give reasons for your answer.
12. Name the leading cities of South America and the countries to which they belong. Which country has most of these towns ? Which has none ? Why ?

SECTION III

AFRICA

Next to Asia, Africa is the largest continent. It lies closest to Europe and Asia. Its northern shores were known to the people of Europe and Asia for centuries. The oldest civilization of the world was in the Nile Valley of Egypt. Yet, strangely enough, Africa has remained a 'dark' continent till recently. This is because of the vast Sahara Desert in the north and the difficulties of penetration into the continent till recently.

Even today, Africa is the little known continent. It remains the most backward continent. Its people belong to tribes who live in a stone—age culture. During the last fifty years, Africa has had a reawakening and is fastly changing in its appearance and outlook. We shall study in the following pages about the young and growing countries of Africa and their share ni the wealth of the world.

CHAPTER 11

AFRICA-THE LAND AND ITS PEOPLE

(i) Exploration

The northern coast of Africa adjoining the Mediterranean Sea was known to the people of South Europe and Asia for long. During the Middle Ages, the Arab sailors explored coastal East Africa for its ivory, gold, spices and the ' black ' slaves. The west coast of Africa to the west of Sahara was also known to the European sailors. But it is only with the discovery of the Cape route by Bartholomew Dias in 1498 that the outline of the southern shorelines of Africa was understood.

It was only in the nineteenth century, many explorations were made into the interior of Africa by great explorers, like *David Livingstone*, *Mungo Park*, *Bruce*, *Stanley* and others. It was Livingstone who discovered Victoria falls on the Zambezi river. West Africa was explored by Mungo Park. Till recently, the sources of the Nile and the Congo remained mysterious.

(ii) Location

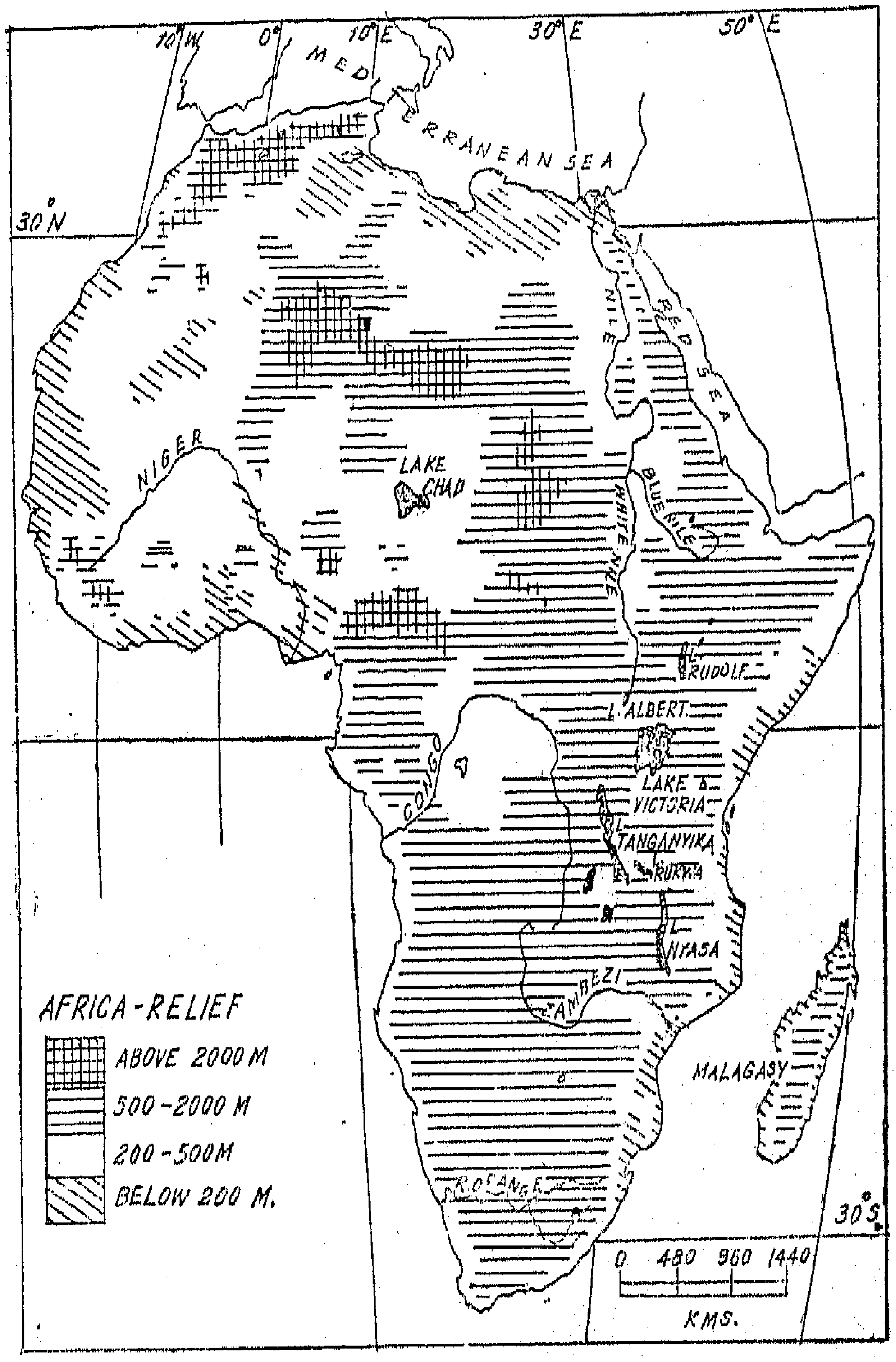
Africa lies south of Europe, separated from it by the Mediterranean Sea and the narrow *Gibraltar Strait.* It continues into Asia through the *isthmus of Suez* and the *Sinai peninsula.* The continent extends between 36° N. and 33° S. latitudes, and between 18° W. and 51° E. longitudes. The equator runs almost midway through Africa. Yet, nearly twothirds of Africa is to the north of the equator; this is because Africa is widest in the northern latitudes and narrow in the southern latitudes.

Africa has an area of 42 million sq. kms.

(iii) Physical Features

Africa is a plateau with very little land below two hundred meters. Only in the north, running parallel to the Mediterranean Sea is a mountain chain, called the *Atlas mountains*. The Atlas ranges are a double mountain chain and a part of the Alps mountain system of Europe. In the extreme south of Africa is found another mountain chain, known as the *Cape ranges*.

The plateau of Africa descends steeply to narrow coastal plains on all sides. The plateau is highest in the east in the Ethiopian highlands and in the East African plateau. Along the southeast coast, the plateau forms a steep edged rim, called the *Drakensberg* mountains. The



Map 37 : Africa-Physical Features

Ethiopian and East African highlands carry many important volcanic peaks like *Kilimanjoro*, *Kenya* and *Elgon*. The plateau, as a whole, is higher in the south-about 1000m.—and less in elevation, north of equator.

Within the plateau, there is a very interesting feature. Running north to south over a distance of more than 1500 kms. is a narrow deep depression with steep sides rising to the plateau level and forming high peaks along its edges. It is called the *East African rift valley*. It starts in Israel in Asia, runs south through the Red Sea depression and then into Africa as far south as the Zambesi river. In this depression, there are many large fresh-water lakes.

To the southeast of Africa separated from it by the Mozambique channel, lies a large island, called *Malagasy*.

(iv) Drainage

There are many large lakes in Africa. Most of them are in the East African rift valley. They are the Lakes *Rudolf*, *Natron*, *Malawi*, *Albert*, *Edward*, *Kivu* and *Tanganyka*. The only large fresh-water lake that lies outside the rift valley is Lake *Victoria*. In North and southwst Africa, there are a large number of salt-water lakes, like lake *Chad* in Sahara and lake *Ngami* in south-west Africa. These salt-water lakes form inland basins.

There are many large rivers in Africa. The *Nile*, one of the longest rivers of the world, rises in lake Victoria near the high peak of *Ruwenzori* and flows north to join the Mediterranean after forming a very fertile delta in Egypt. It forms a number of rapids or cataracts in its middle course. It has two important tributaries, the *Blue Nile* and the *Atbara*, both of which rise in the Ethiopian highlands. The Nile, for most of its course, flows through a desert.

The *Congo* is another large river that rises in the southern part of the rift valley and flows north and then west to join the Atlantic Ocean, south of equator. The *Ubangi* rising in the East African highlands and the *Kasai* rising in Central Africa are its main tributaries. The Congo has waterfalls in its upper course known as the *Stanley Falls*. Close to the mouth also, it has rapids known as the *Livingstone Falls*. The Congo forms an estuary in the Atlantic.

The *Zambesi* is another large river of south central Africa that rises in the rainy central Africa and flows east to form a delta in the Mozambique channel. The *Victoria Falls* in its middle course is one of the largest falls in the world. This river forms flows in a deep gorge in its middle course.

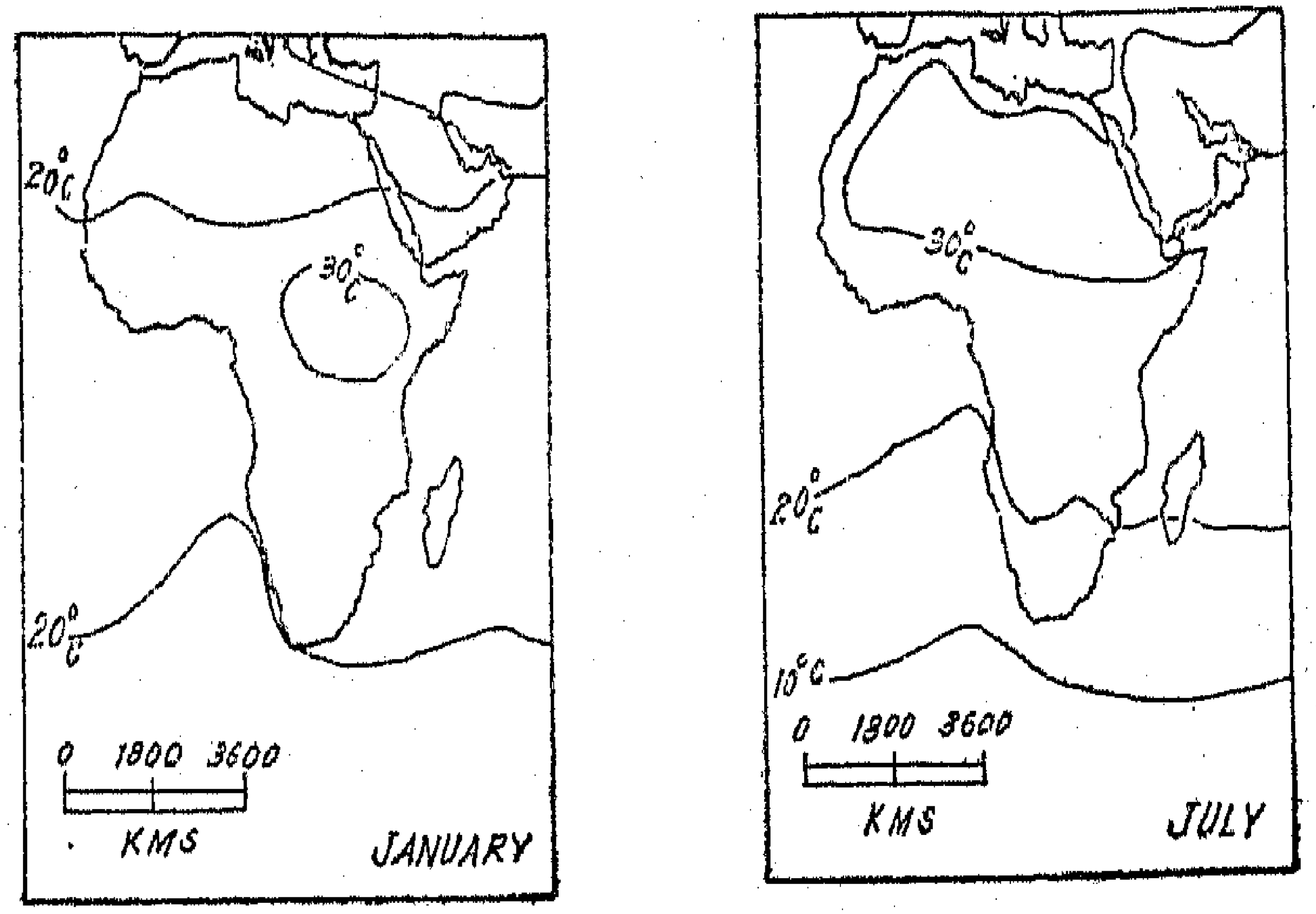
The *Limpopo* rises in the highlands of South Africa and flows east to join the Indian Ocean. The *Orange* is another river of South Africa that rises in the Drakensberg mountains and flows west to join the Atlantic. The *Vaal* is its main tributary. Both the Limpopo and the Orange are seasonal rivers.

In west Africa, there are many large rivers, like the *Niger*, the *Volta*, the *Gambia* and the *Senegal*. The *Niger* is the biggest of them, and the *Benue* is its important tributary. These rivers are shallow and their mouths are silted with sand-bars. The upper valley of the Niger is also marshy.

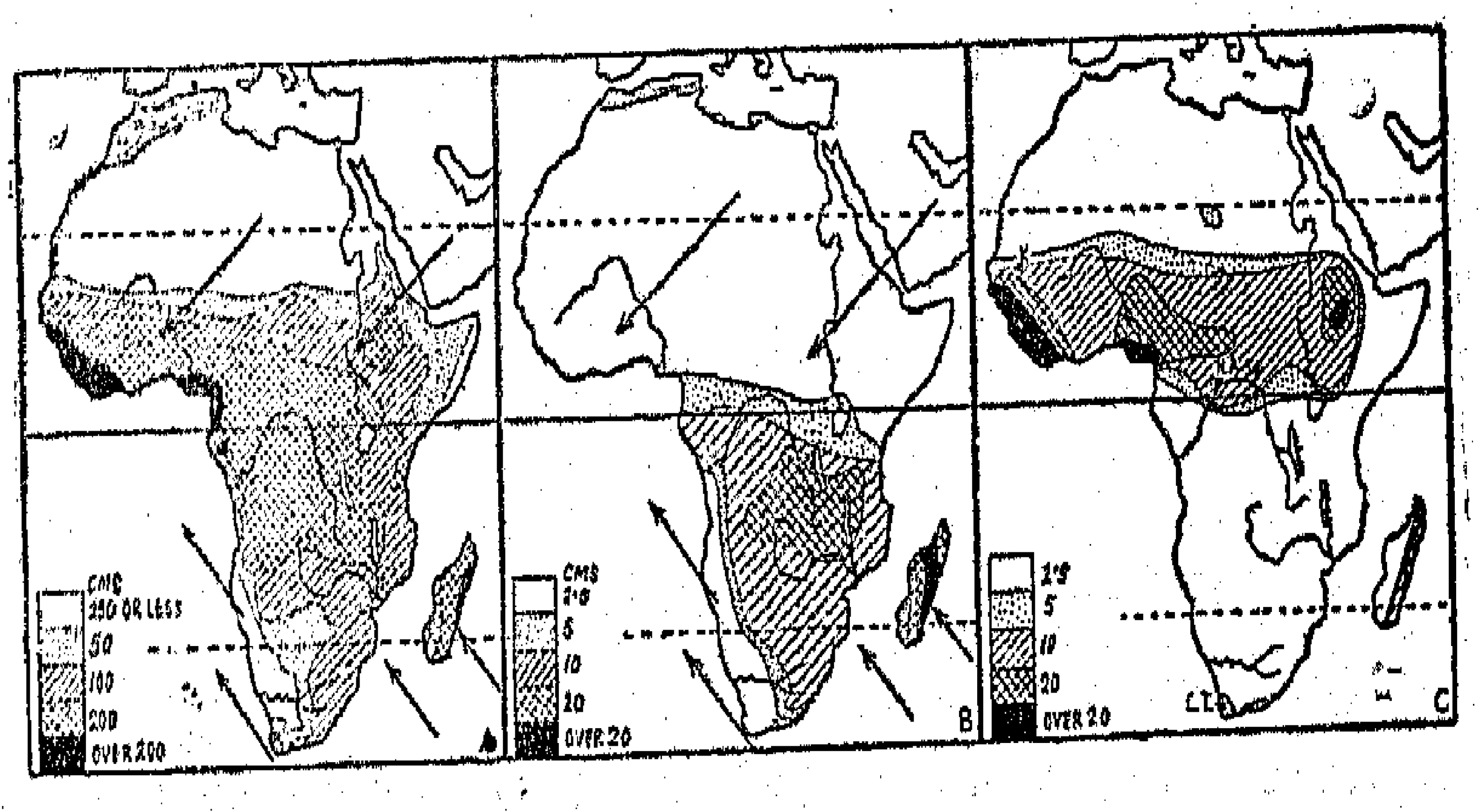
Most of the rivers of Africa develop waterfalls, when they descend from the plateau to the narrow coastal lowlands. This is a serious handicap for navigation from the sea inland.

(V) Climate

Most of Africa lies within the tropics, and no part lies outside the subtropics. Therefore, the continent as a whole is hot throughout the year. In July, the hottest part lies to the north of the equator over the Sahara plateau. The areas to the south of equator remain warm. In December, the conditions are reversed, and the southern parts are hotter while North Africa remains warm. The northern summers are more scorching than the southern summers because North Africa lies farther away from the sea.



Map 38 (a) : Africa—January and July Temperatures.



Annual Southern Summer Northern Summer

Map 38 (b) : Rainfall in Africa—Annual and Seasonal

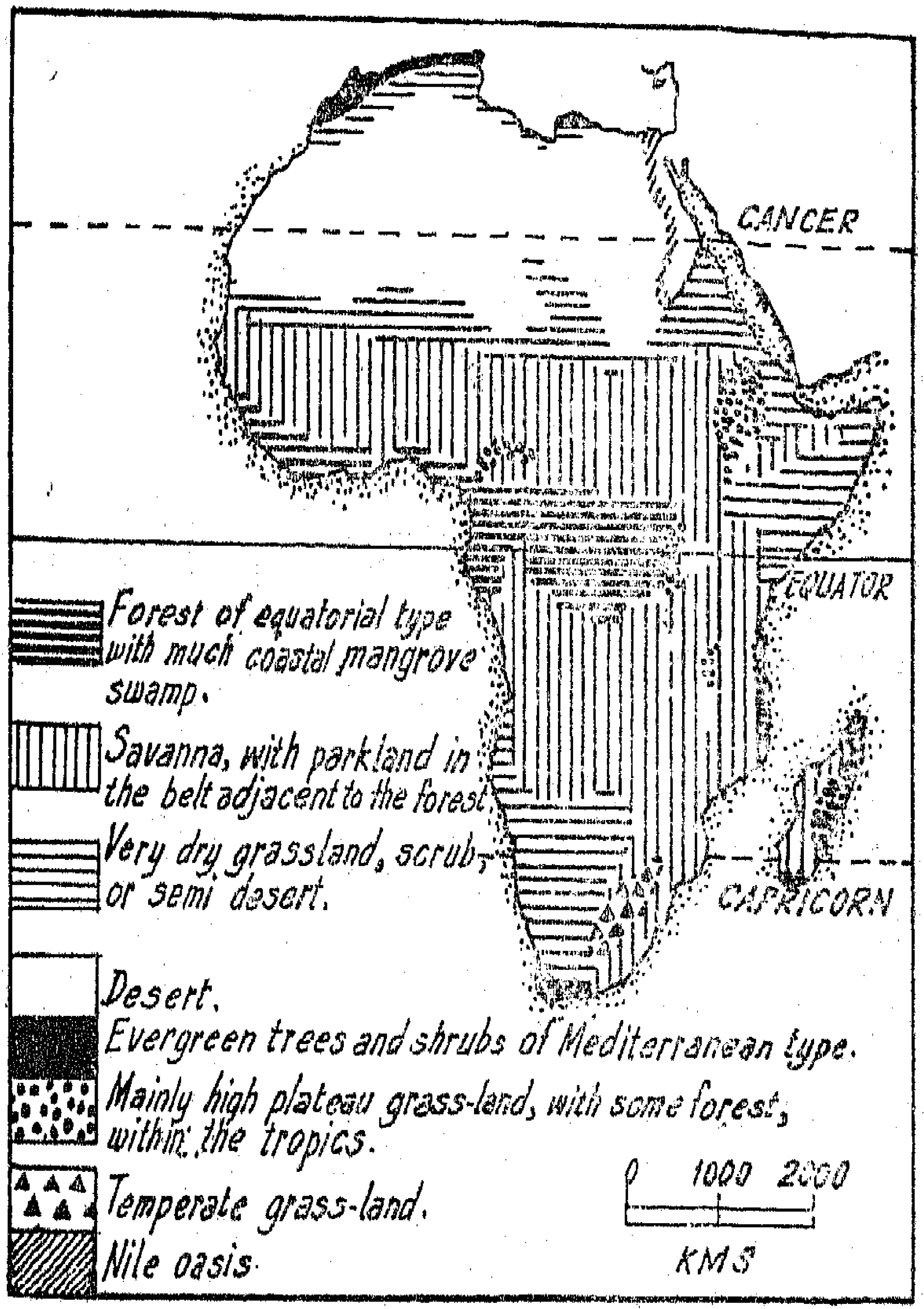
The areas lying to the north of equator are under the influence of northeast trade winds throughout the year while the areas to the south of the equator come under the influence of southeast trades. It is only along the extreme southern and northern tips of Africa that westerlies blow during winter. On account of excessive heating over land, a narrow east coast strip comes under the influence of monsoon winds.

In the Congo lowlands and the Guinea Coast of West Africa, it rains heavily throughout the year during afternoons as a result of convection. The East African highlands receive still heavier rains. On either side of this equatorial belt there lies a zone of moderate summer rainfall. Along the northern coast of Africa and extreme southern part of Africa, it rains during winter due to westerlies. North central Africa and southwest Africa are tropical deserts with scanty rains. The *Sahara* Desert in North Africa is the largest in the world with an extreme continental climate. The *Kalahari* desert lies in southwest Africa.

It is noteworthy that climatic belts in Africa *repeat* themselves in the same order from the Congo lowlands northwards and southwards. This happens because Africa stretches over equal latitudinal extent on either side of equator. The climatic belts on either side of the equator are the tropical *Savannas* with summer rainfall, tropical deserts and semideserts with scanty rainfall and Mediterranean climatic regions with winter rainfall.

(vi) Natural Vegetation and Animal Life

Like climatic belts, the vegetation belts also *repeat* in Africa on account of the same reasons. The Congo lowlands and the Guinea Coast lowlands are covered by dense evergreen rainforests of the hot wet type


CANCER
EQUATOR
CAPRICORN
Forest of equatorial type with much coastal mangrove swamp.
Savanna, with parkland in the belt adjacent to the forest
Very dry grassland, scrub, or semi desert.
Desert.
Evergreen trees and shrubs of Mediterranean type.
Mainly high plateau grass-land, with some forest, within the tropics.
Temperate grass-land.
Nile oasis.
0 1000 2000
KMS

Map 39 : Africa—Natural Vegetation

similar to selva forests of the Amazon lowlands. These forests have many hardwoods like ebony, satin-wood, rosewood, mahogany, rubber, oil palms and a variety of climbers. These forests grow to great heights and are full of animals, birds and insect life. Monkeys, apes, bats, squirrels, lizards, tree-frogs and reptiles are in plenty. The tree tops are full of colourful birds like parrots and macaws.

On either side of the rainforests there are extensive *savanna* tropical grasslands. These grasslands have an open parkland appearance with a few short stunted trees, scattered in between. Trees generally are lined along the stream courses. *Acacia, babul, baobab, bottle trees* and other gum and resin-yielding trees are found in these grasslands. The grasses, here, grow very tall during the rainy summer. They are called elephant grass, because even an elephant can move in them hiding. These savanna grasslands are found largely over West Africa, Sudan, Tanzania, Angola and Rhodesia. The highlands of East Africa also have this type of vegetation intermixed with forests. In general, trees become taller and more plentiful as one approaches the equatorial rainforests.

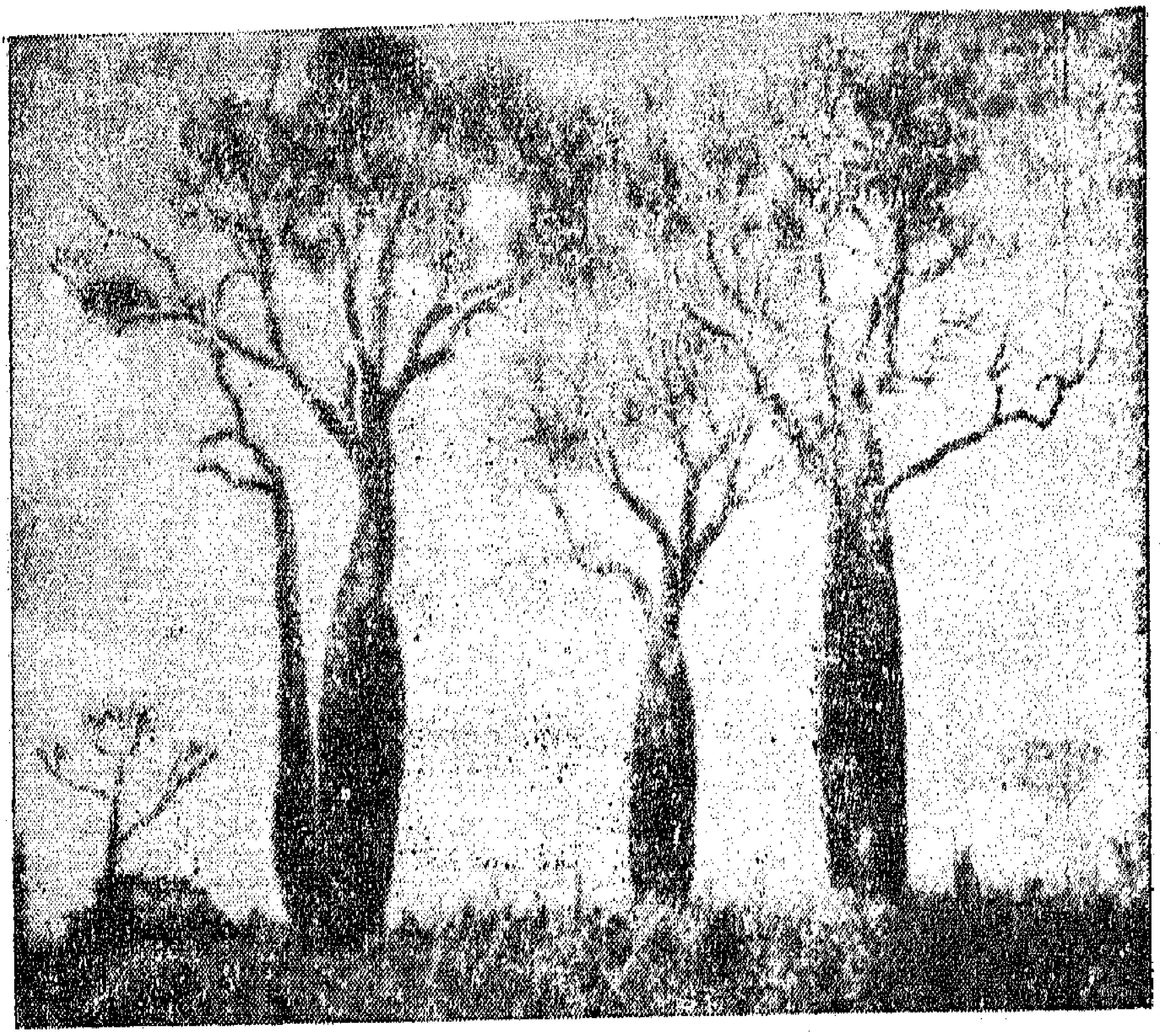


Fig. 8 : Bottle trees of the Savannas

These grasslands are *hunters' paradise*, full of game. Till recently, wild animals used to roam about freely in them, but the reckess hunting has resulted in destuction and decline of wild animal life in them.

Most African governments have initiated conservation and protection measures to preserve the wild life. Many national parks and game-sanctuaries have come into existence. Wild animal life in these grasslands belong to three groups : (a) Large grass-eating animals like elephants, giraffe, zebra, deer and antelopes, that are swift-footed or have defensive organs like horns or hoofs; (b) Wild animals of prey like lions, tigers, leopards, hyena, wolves and foxes that prey upon the first group of animals by stalking, guile or cunning; (c) Rodents; like rabbits that burrow in the field and live in them. Cattle have been introduced on a large scale in these grasslands Insect life is plentiful, particularly during summer. Running birds like ostriches are also abundant.

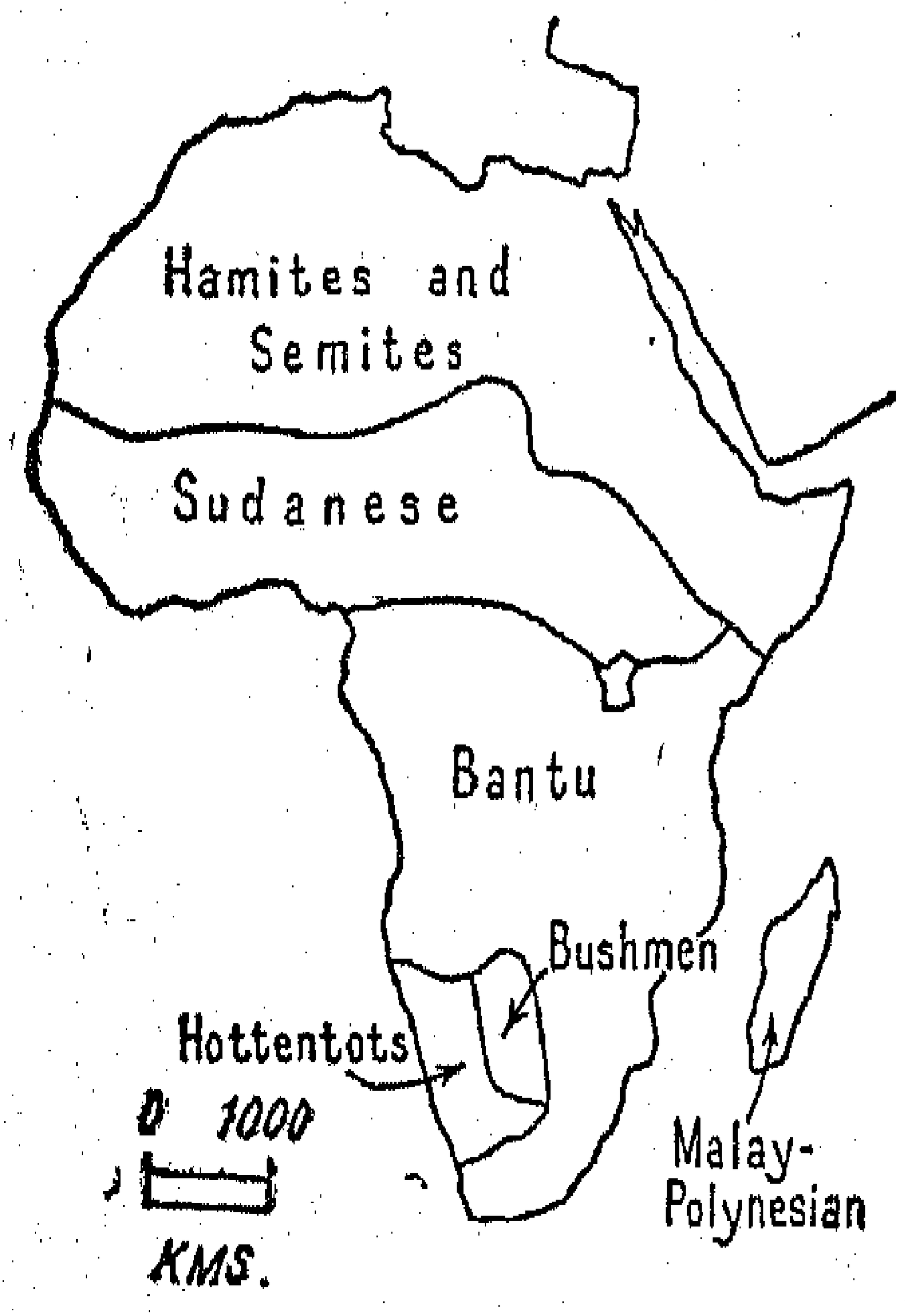
Fig. : 9 A long sanctuary in E. Africa

Beyond the savannas occur deserts and semideserts with scanty vegetation. Broom grass and cacti generally grow in them It is only in the well-watered oases that more plants like date palms grow. Animals in them mainly come out during nights beacuse the days are too hot and are full of glare.

Along the extreme northern and southern coasts, Mediterranean type of vegetation is found. Laurel, oak and olive are the important species. The trees have thick barks and shiny, leathery leaves. Where the rainfall is less, the vegetation becomes poorer scrubland like the *macquis* of North Africa. Foxes and goats are the main animals here. The *Bush Veld* of South Africa, in the highlands, is a temperate grassland of the '*Steppe*' type.

(Vii) People

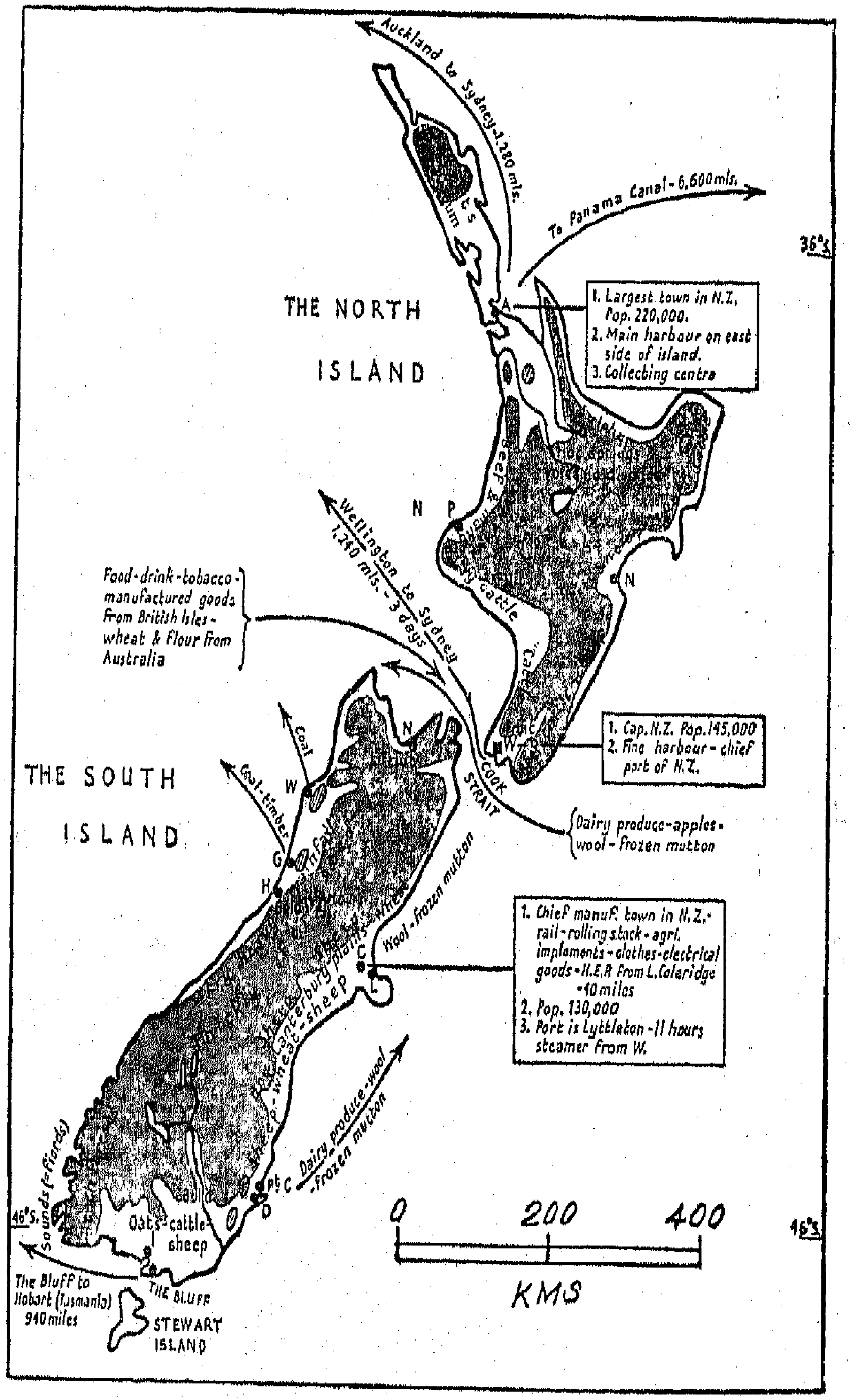
Nearly 320 million people live in Africa. Most of them live along the northern Mediterranean coast, in the Nile velley, lower Niger valley, in pockets in East African highlands and coasts and in coastal South Africa. North Central Africa, the Congo lowlands, most of interior West Africa and southwest Africa are very thinly peopled on account of hot desert climate or a rain-forest surroundings.



Map 40 : The people of Africa

The people of Africa belong to a large variety of groups and tribes. No other continent has such a variety of tribes and clans as Africa does. To add to this variety, Europeans have settled in the northern and Guinea coasts, S. Africa and eastern highlands. Asians, particularly Indians and Pakistanis, are in considerable number in South and East Africa.

New Zealand has railways within the two islands, but coastal shipping is more important. Port Wellington lies on international shipping routes.


Auckland to Sydney-1,280 mls.
To Panama Canal-6,600 mls.
36°S
THE NORTH ISLAND
A
1. Largest town in N.Z. Pop. 220,000.
2. Main harbour on east side of island.
3. Collecting centre
N P
N
Wellington to Sydney 1,240 mls. - 3 days
Food-drink-tobacco-manufactured goods from British Isles-wheat & Flour from Australia
1. Cap. N.Z. Pop. 145,000
2. Fine harbour-chief port of N.Z.
W
COOK STRAIT
THE SOUTH ISLAND
Coal
Coal-timber
W
N
G
H
Dairy produce-apples-wool-frozen mutton
Wool-frozen mutton
C
L
1. Chief manuf. town in N.Z.-rail-rolling stock-agri. implements-clothes-electrical goods-H.E.P. from L. Coleridge-40 miles
2. Pop. 130,000
3. Port is Lyttleton-11 hours steamer from W.
Canterbury plains-wheat-sheep
Dairy produce-wool-frozen mutton
Pt C
D
Sounds (=fiords)
46°S.
Oats-cattle-sheep
The Bluff to Hobart (Tasmania) 940 miles
THE BLUFF
STEWART ISLAND
0 200 400
KMS
46°S

Map 70 : New Zealand—Products

New Zealand exports wool, milk powder, cheese, butter, meat, hides and skins. It imports textiles, machinery, motor cars and chemicals. The trade of north of Sahara and the *Africans* south of Sahara. The Hemites and Semites are Muslims. They have light colour skins. The Hemites are generally farmers but the Semites are pastoralists, traders and semi-nomads. The *Berbers* of North Africa, the *Tuaregs*, the Egyptian *Fellaheen*, the Sudanese *Nubians* and the Ethiopian *Gallas* are all Hemites.

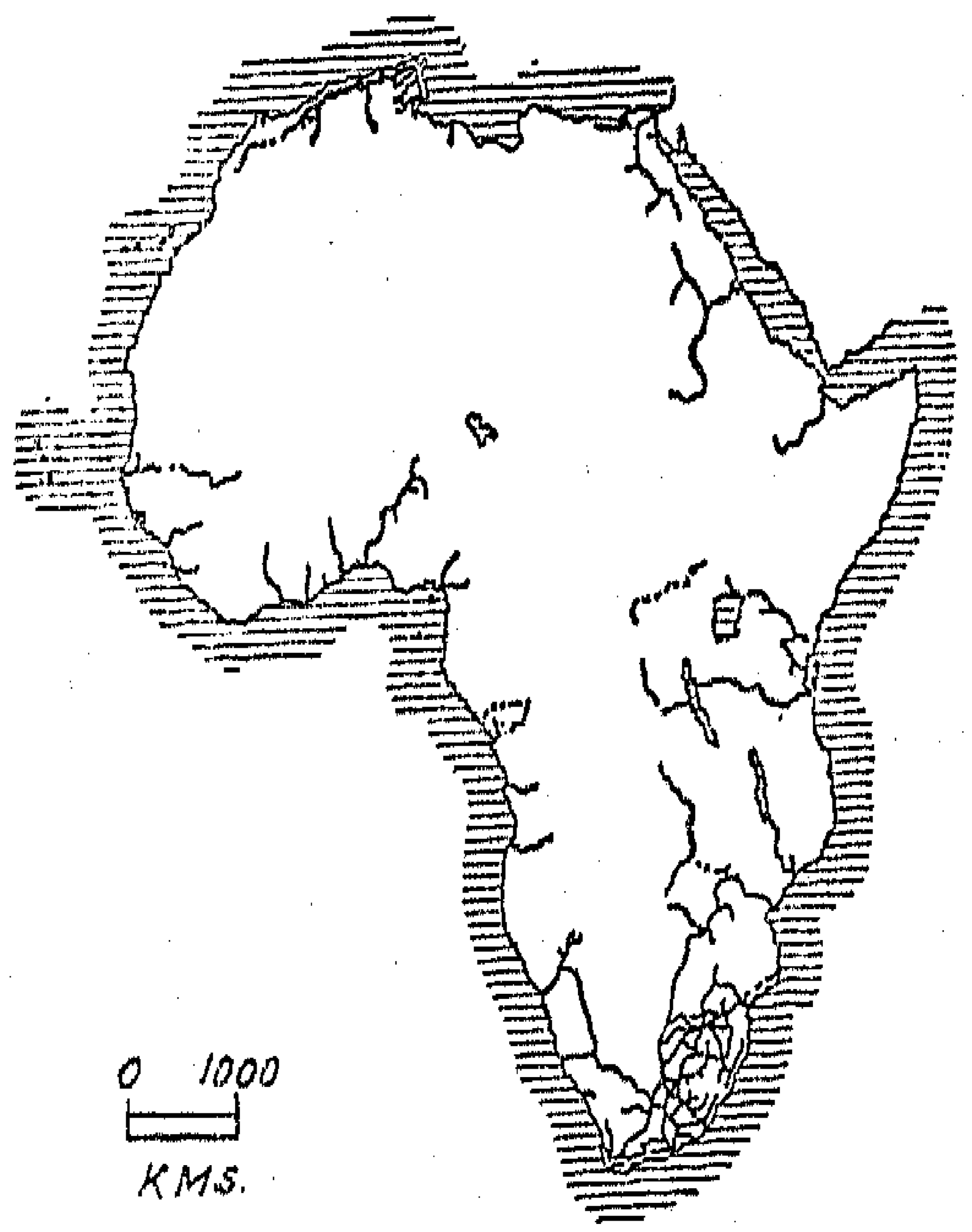
There are two groups of Africans : The *Sudanese*, as the name itself suggests, live in Sudan and West Africa. They are black skinned, have wooly hairs and are essentially farmers. They are the most progressive among the African people. The other group, called the *Bantus* live south of the equator. The *Kikiyu*, the *Baganda* and the *Masai* of East Africa, the *Basutos* and *Zulus* of South and South Central Africa belong to this group. Some of them are herdsmen and others are culivators. I (b)

(viii) Communications

Africa is extremely backward in the development of railways, roads and other quick means of transport. There are few railways; most of them are peripheral and short in length. A fairly good network exists only in South Africa and Rhodesia. Small railway connections exist between some ports and inland towns in the Nile and Niger valleys and East Africa. Most of central and north Africa have no railways. An attempt was made to connect Cairo in the Nile detla of Egypt with Cape Town in South Africa through East Africa, but the scheme has not so far borne fruit.

Road development is also recent in Africa. Roads are being built in most of the newly independent African countries. Big desert roads are being built across the Sahara and the Kalahari.

Airways connect most of the capital cities of African nations with each other and with other parts of the world. In fact, airways are proving more useful in interlinking the towns of Africa which lie mostly along coasts and are separated by barren deserts and dense forests.



Map 14 : Railways in Africa

The African coastline is almost straight and bereft of inlets and good harbour sites. In spite of a long coastline, Africa has few good harbours.

The rivers of Africa are also not much useful. Most of them are long, deep and perennial and flow through areas rich in natural wealth. Yet, they are not useful fully because most of them have developed waterfalls in their upper courses as well as close to the sea where they descend to form the plateau. No doubt, they have long navigable stretches in their middle courses, just as the Congo does. These rivers are the only means of transport in the interior af Africa, but they cannot transport goods to the sea-coast. Therefore, short railways connect the ports with places just upstream of the waterfalls, upto which place the river is used for transport. I (c). (A) I pg. 114 (b)

Exercises

1. Give short accounts of the following :
   (a) The East Africa Rift valley; (b) People of Africa, (c) Rivers of Africa as waterways, (d) Animals of the Savannas.

2. Give reasons for the following :
   (a) The rivers of Africa have waterfalls close to their mouths.
   (b) Climatic and vegetation belts repeat in Africa.
   (c) Though Africa extends over the same latitudes north and south of the Equator, nearly two-thirds of Africa lies north of the equator.
   (d) The Savannas are hunters' paradise.
3. Fill in the blanks :
   (i) The Nile rises in______and joins the______.
   (ii) The main tributaries of the Congo are______and______.
   (iii) The Victoria falls is on the river______.
   (iv) Lake______in the Sahara is a salt-water lake.

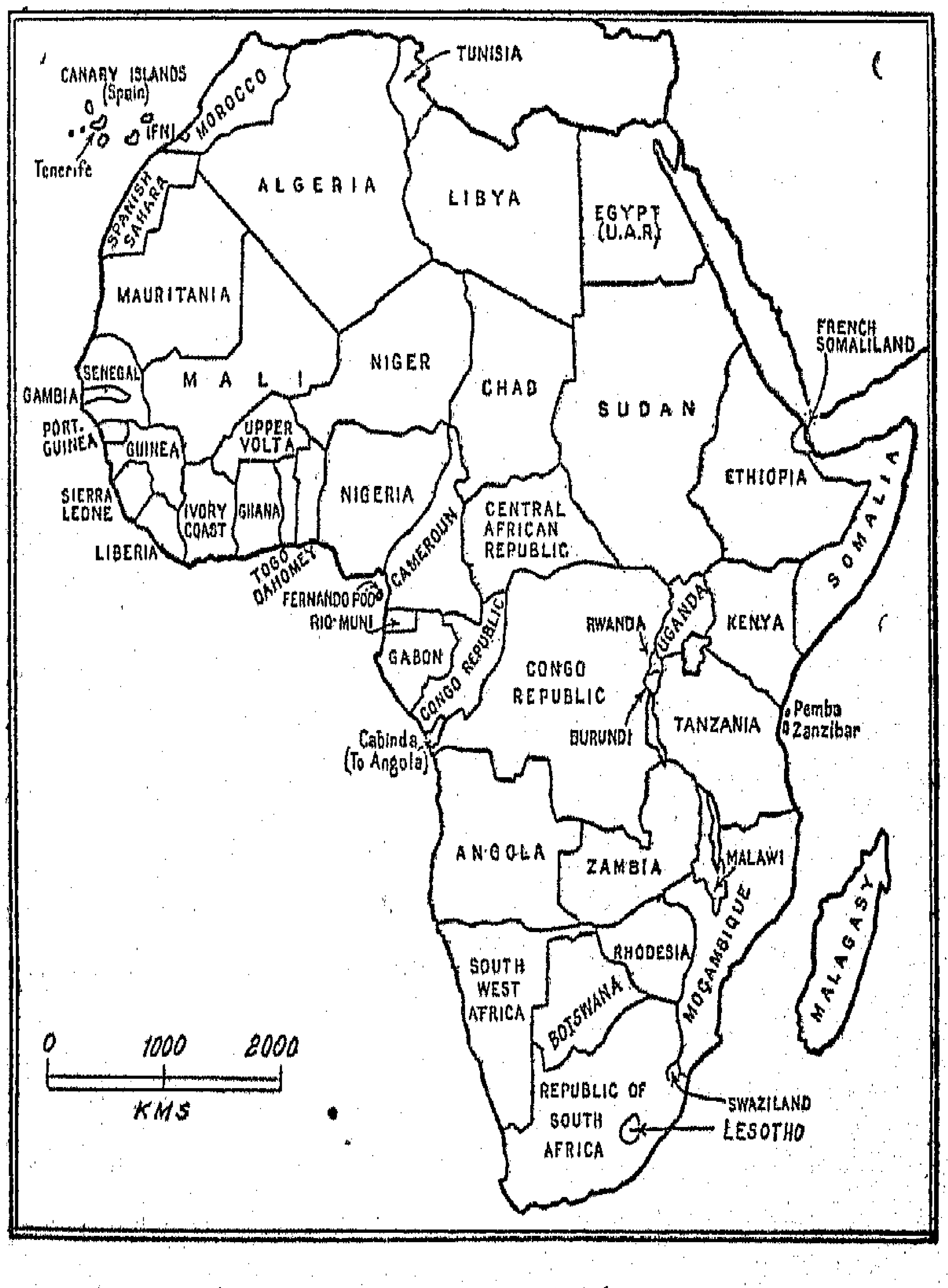
Project Work

1. *Gather with the help of your teacher information regarding the travels of Livingstone and Mungo Park in Africa. Mark their travel routes on a map of Africa.*
2. *Gather pictures and photograph of the following :*
   (a) Wild animals of the African Savannas.
   (b) Plants and birds of the Equatorial forests.
   (c) The various groups of African people.
3. *Gather information regarding the Pygmies and the Bushmen, their customs and habits, their ways of life and the areas where they live.*

CHAPTER 12

COUNTRIES OF NORTH AFRICA

Africa, during the last two hundred years was colonised by different European countries, and till recently, Africa was a group of European colonies. Britain, France, Spain, Portugal, Belgium and Italy had colonies in Africa before the Second World War. After the war, most African countries have become independent and have also been renamed. Only Portugal still retains colonies in Africa. Most African countries are small. They can be grouped into the following groups :



Map 42 : Countries of Africa

1. (1) Countries of North Africa (Mediterranean countries)-Morocco, Algeria, Tunisia and Libya.
2. (2) West and North Central Africa-Spanish Sahara, Mauritiana, Mali, Niger, Chad, Senegal, Gambia, Ghana, Volta, Togo, Dahomey, Nigeria, Cameroon, Central African Republic.
3. (3) Countries of the Nile Valley-Egypt, Sudan, Ethiopia.
4. (4) East Africa-Kenya, Uganda, Ruanda, Burundi, Tanzania, Somaliland, Mozambique.
5. (5) Central Africa-Gabon, Congo Republic (Brazzaville). Congo Republic, Angola, Zambia and Rhodesia.
6. (6) South and Southwest Africa-SW. Africa, Union of South Africa, Swaziland, Botswana and Lesotho.

Let us study these countries, of their natural wealth and of their people.

Countries of North Africa

Countries of North Africa adjoin the shores of the Mediterranean Sea and enjoy a 'Mediterranean' type of climate with hot dry summers and mild wet winters. These countries, for centuries, have maintained trade with countries of Europe and are therefore more advanced than other parts of Africa. They were French and Spanish colonies in the past and were developed during the colonial period. These countries are often known as the *Berber countries* because the berbers are the main group of people living in these countries.

The relief of these countries is simple. Along the Mediterranean countries, there are lowlands called the '*Tell*' lowlands. These lowlands are backed by the Atlas mountains. The Atlas mountains consist of mountain chains, the *Tell Atlas*, adjoining the Tell plains, and the *Saharan* or *High Atlas*, south of the Tell Atlas, bordering the Sahara desert. Between the Tell Atlas and the High Atlas, there is a plateau called the *Shott Plateau*. The Atlas ranges are liable to frequent earthquakes. These countries form a part of the Sahara desert in their southern sections.

While the coastal lowlands enjoy a 'Mediterranean' climate, the climate becomes drier southwards. Good forests cover the Tell Atlas, while the Shott plateau in the rainshadow is covered by scrublands. The Sahara or High Atlas is barren, with no vegetation-cover.

Most people live in coastal areas. They are *berbers* or semitic arabs. Farming and livestock rearing are the main occupations of the people.

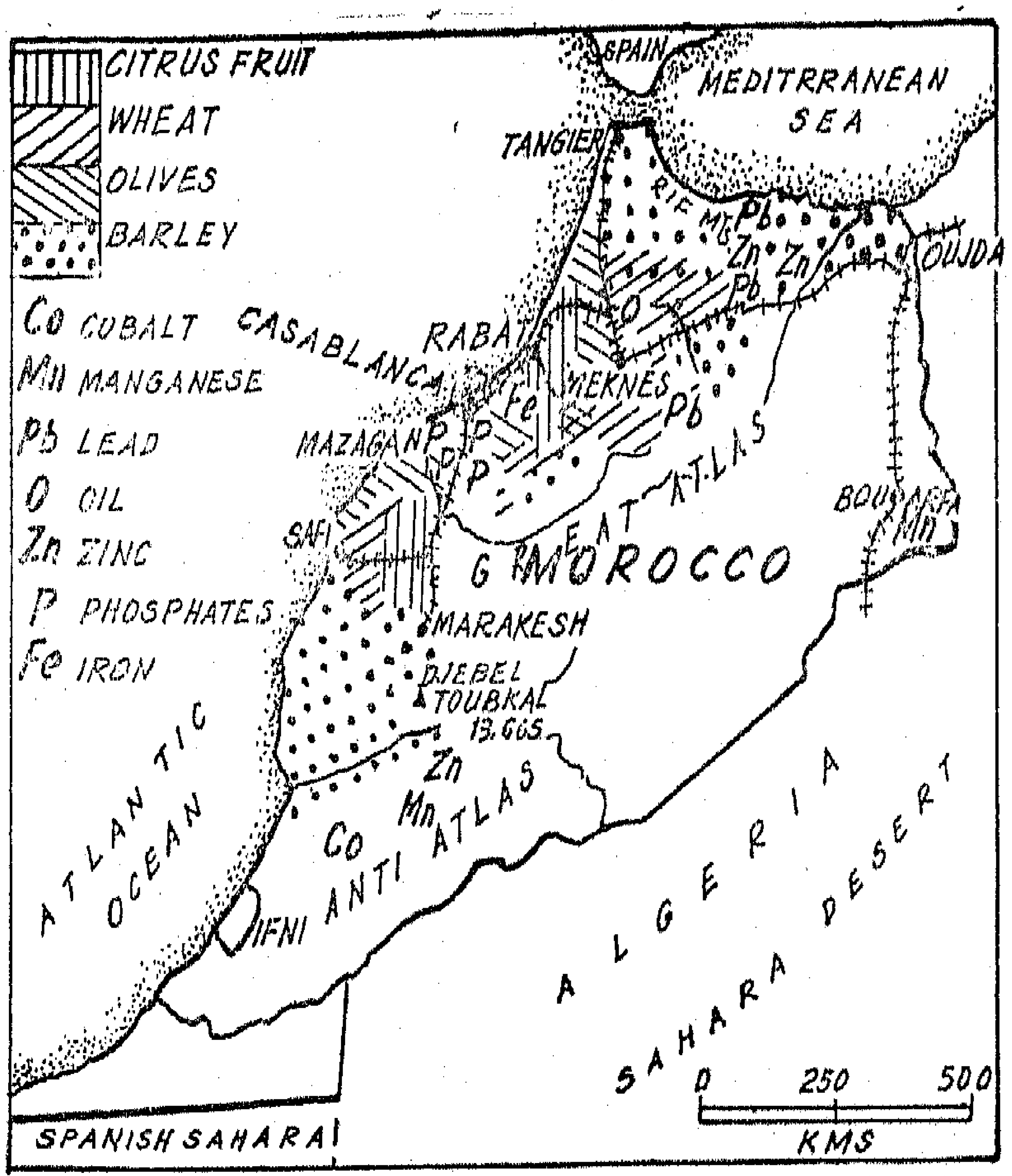
North Africa includes Morocco, Algeria, Tunisia and Libya. Of them, Libya is mostly a desert and differs in many respects from the rest.

(i) Morocco

Morocco is the westernmost of the North African nations. It is made up of the former French and Spanish colonies of Morocco.

In Morocco, the *High Atlas* rises to about 3000 m; the *Antiatlas* and the *Middle Atlas* lie between the High Atlas and the coastal lowlands. The plateau in between is called the *meseta*.

Many short, seasonal streams flow west to join the Atlantic. A meagre rainfall of 5o cms. falls in winter in the coastal lowlands. The rivers are dammed and used for irrigation to grow wheat, fruits like grapes, oranges and olives, and barley. Agriculture is seasonal, there being no crop during the hot, dry summer.



Map. 43 : Morocco

Rearing of sheep and goats is a more important occupation than farming. During summers, the livestock herds move up the hills in search of summer mountain pastures.

Morocco mines many minerals. It is the second largest producer of phosphates in the world. Iron ore, manganese, lead, zinc and coal are mined.

There are practically no industries except fruit and fish canning.

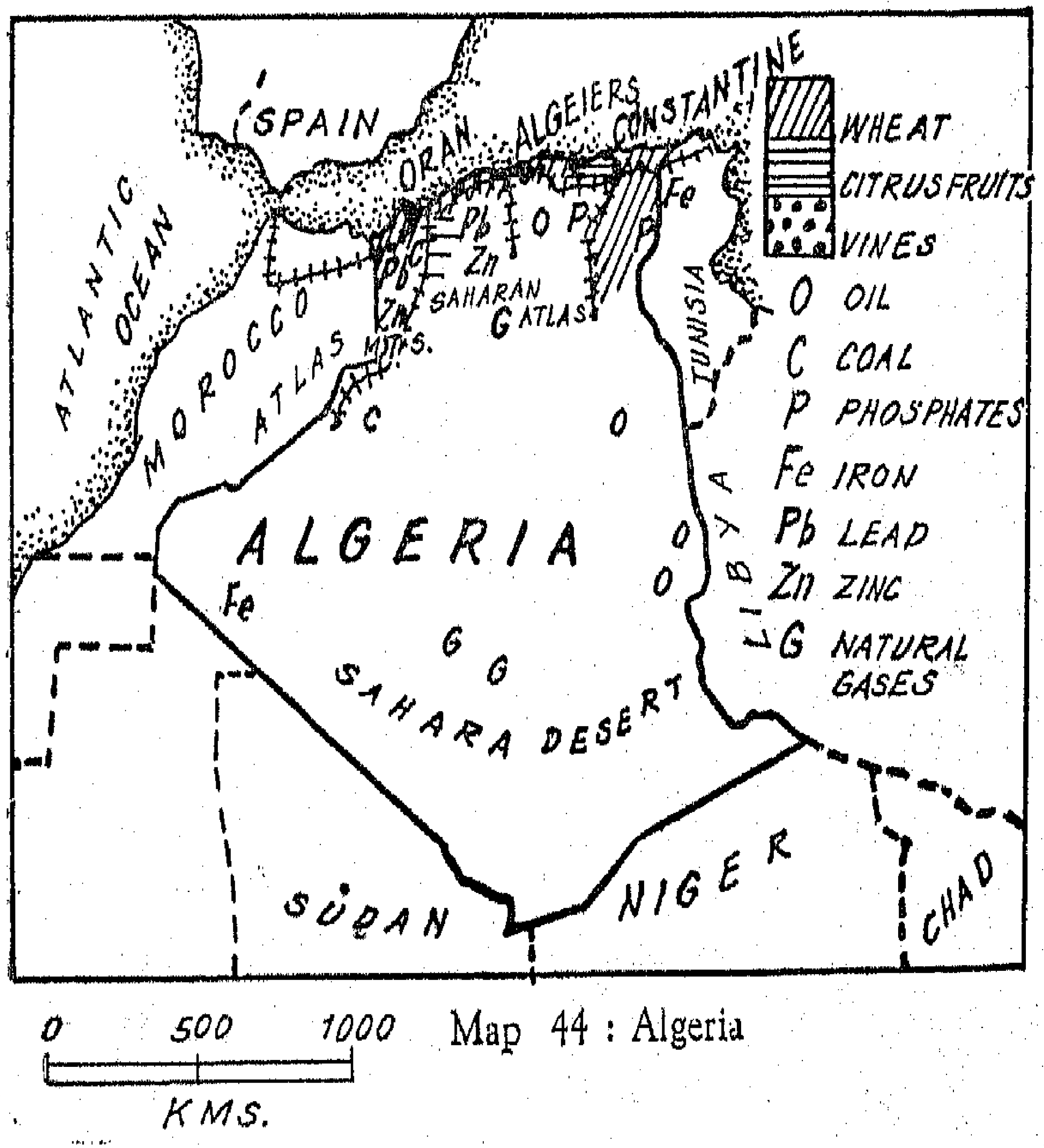
Nearly 12 million people live in Morocco, mostly in the coastal lowlands. They are muslims; arabic is their language. Nearly a quarter of the population lives in towns.

Marrakesh is the capital. It lies in an oasis of datepalms near the Atlas range. It is a caravan centre. *Casablanca* is a modern port and industrial centre with sugar refineries, fish canning factories and flour mills. *Mohammedia* nearby is a port and has an oil refinery. *Safi* and *Agadir* are fishing ports. *Fez* is a centre noted for olive groves. *Tangier* in the north is a passenger-port, close to the strait of Gibraltar.

A railway runs from Marrakesh to Casablanca and then to Algeria through Fez. A railway connects Fez with Tangier. Camel is the main beast of burden over most of Morocco. Morocco exports phosphates, wine and olive oil.

(ii) Algeria

Algeria till recently was a french colony, but it is now independent. The lowlands in Algeria are very narrow, because the *Tell Atlas* runs close to the shores. More than half of Algeria, in the south, is a part of the vast sandy hilly desert of Sahara. In the coastal lowlands and the valleys of the Tell Atlas, farming is the main activity. Wheat, barley, maize, potatoes, peas,



Map 44 : Algeria

and fruits are carefully grown. Of the fruits, grapes, dates, olives and citrus fruits are the most important.

The hill slopes of the Tell Atlas are covered by forests. Lumbering of cedar, oak and pine is the main activity in this region.

The *Shott plateau* is full of *shotts* or depressions filled with salt water lakes that dry up in summer. In the Shott plateau as well as in the High Atlas, rearing of sheep and goats by nomadic tribes is the main occupation. The Sahara supports practically no people.

In Algeria, a number of minerals are mined. Iron ore is mined in the coastal ranges, while coal, manganese and phosphates are mined in the High Atlas. Mineral oil and natural gas are drilled in the Saharan Algeria at *Edjele*, *Hassi Messaoud* and *El Gassi*. The oil is sent by pipelines from Edjele to Tunisian ports and from the rest to Algiers for export.

Nearly 10 million people live in coastal Algeria. Only nomads live in the interior. **Algiers** is the capital and port of Algeria on the Mediterranean. Ship repairs and textiles are its main industries. A third of the trade of Algeria passes through it. *Oran* is a port of western Algeria, with soap, textiles and glass factories. *Annaba* (also known as Bone) and *Phillipville* are the other ports while *Constantine* is the only large inland lown.

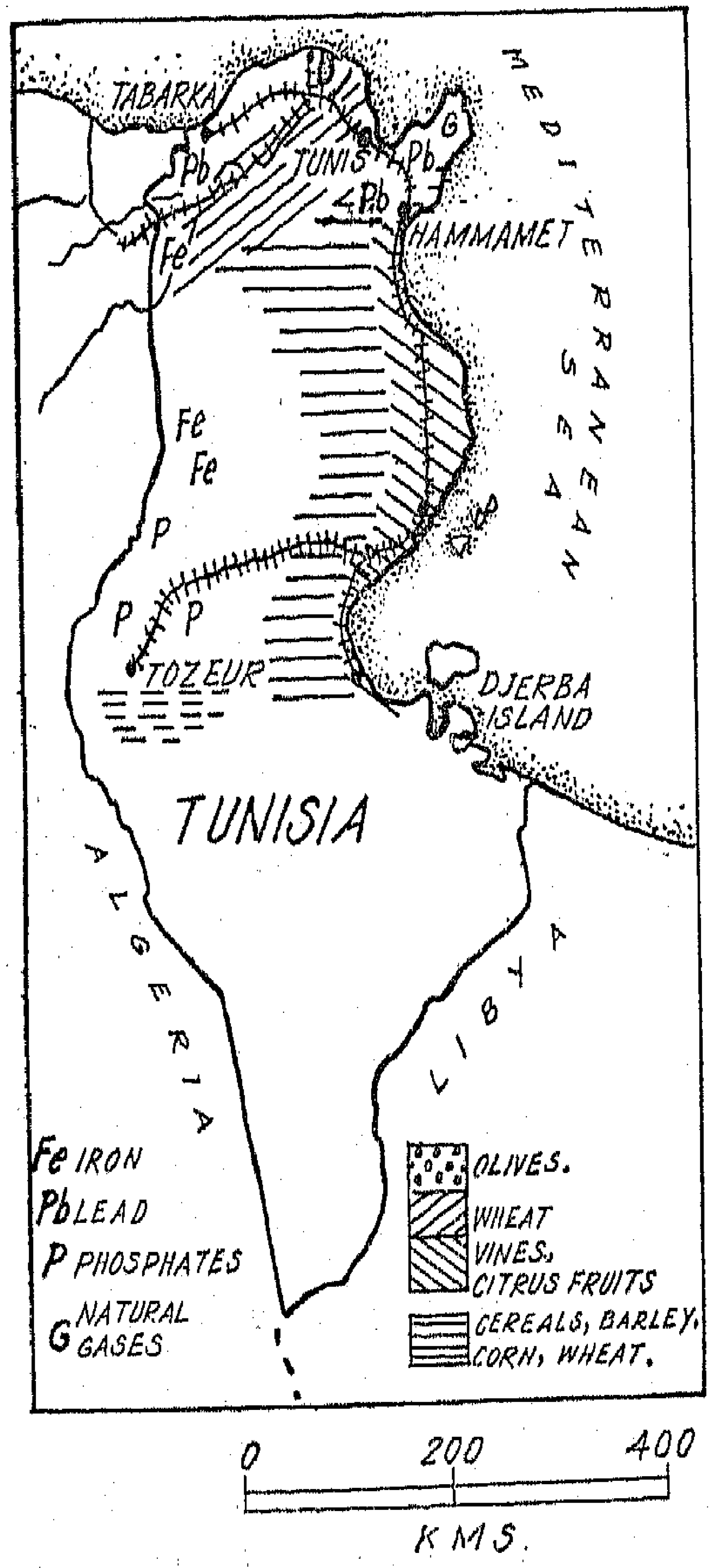
Most of the trade of Algeria is with France. Algeria exports iron and other mineral ores, oil, wine and olive oil.

(iii) Tunisia

Tunisia, the smallest of the North African countries with a population of 4½ millions, became free in 1956 from french rule. To its west is Algeria, while to its north and south, the Mediterranean forms its limits. To its southeast is Libya.

Tunisia consists of a vast plateau enclosed within the Atlas at a height of 500 to 1000 m., and narrow coastal lowlands in the north and east. Wheat in the northern coast and barley in the drier east coast are the food crops. Olives, oranges grapes, dates and figs are grown for export in the well-watered valleys. In the plateau, livestock are reared. Fishing is an important activity all along the Mediterranean coast.

Phosphates, iron, lead and zinc are mined for export. Oil is mined in the southern parts and natural gas near the port of Sfax.



Map 45 : Tunisia

Tunis is the capital and port of Tunisia. The ruins of the empire of Carthage lie nearby. Tunis is a walled town. *Bizerte* and *Sfax* are other ports.

Olive oil, wine and minerals are the exports of Tunisia.

(iv) Libya

Libya lies between Algeria and Egypt. It is almost entirely a desert and semidesert where nomadic arabs herd large stocks of sheep and goats in poor pastures. In coastal oases, olives, dates and wheat are grown.

With the recent discovery of oil in the eastern deserts of Libya, oil drilling has become an important activity.

Beida on the coast is the capital of Libya. *Tripoli* and *Benghazi* are other ports. *Brega* is an oil terminal exporting oil.

Caravan routes cross the Libyan deserts that are sandy, stony and hilly.

The 1½ million people of Libya live by stock rearing, fishing and farming in oases.

Exercises

1. Answer the following:
    - (a) Compare the occupations of the coastal lowlands of N. Africa with those of the Shott plateau.
    - (b) What are the major exports of the North African countries? Why do they export them?
    - (c) Why are most towns of N. Africa ports?
    - (d) Divide Algeria into physical divisions.
2. Name the major oil and phosphate producing regions of N. Africa.
3. Compare Morocco with Libya.
4. State the location and importance of the following places: Marrakesh, Tripoli, Sfax, Algiers.

Project Work

1. *Draw a map of North Africa and mark on it the Tell Atlas, the High Atlas and the Shott plateau. Mark also the farming and livestock rearing regions.*
2. *Mark in the above the main towns and political divisions.*
3. *If you go on a cruise from Agadir to Beida along the coast, state the parts you will touch and the countries in which they are located, State when you will cross the Gibraltar Strait.*

hot days are [illegible]
nights are pleasant

CHAPTER 13

NORTH CENTRAL AND WEST AFRICA

(i) North Central Africa

North Central Africa stretches from the Atlantic Ocean in the west to the Nile valley in the east. Climatically, the whole region is desert and semidesert, called the *Sahara*. The Sahara is the largest and most desolate hot desert of the world. It has an extreme continental climate with scorchingly hot summers and warm winters. Under the clear skies, the nights are cold. Rainfall is about 10 cms. and unreliable, occuring in occasional outbursts. Soon after the rains, temporary *'wadis'* come into existence but they quickly dry up. Vegetation is also scanty.

The whole area is a gently sloping plateau with hill ranges rising above the plateau level. Sand hills dot the desert in many sections.

Nomadic, livestock herding is the main occupation of the people. Dates, vegetables, barley and wheat are raised in the oases which are the only spots where people live in the otherwise empty desert. Recently, some minerals like gold and oil have been found in this desert and mining operations have started.

Very few people live in North Central Africa. Most of them are nomads. The *Tauregs*, who move on camelbacks, completely veiled, are mostly raiders that raid caravans moving in the desert.

Caravan routes crisscross the desert. The few settlements that have developed are all caravan route centres. Of late, airways are becoming increasingly important in crossing the Sahara.

Formerly, almost the entire Sahara was a French possession. But now, it is split up into a number of independent countries. It includes Spanish Sahara, Mauritania, Senegal, Gambia, Mali, Upper Volta, Niger and Chad.

Let us briefly study about the main features of each of them.

Spanish Sahara lies on the Atlantic coast. It is a sandy desert. Dates and fish are its products.

Mauritania is a plateau, but there is a plain on its southern side along the *Senegal* river. Maize, millet and rice are grown in the plain. Herds of cattle, sheep, goats and camels are grazed in the plateau. Mauritania is famous for gum arabic. Iron ore and copper are mined in small quantities and exported. **Nouakchott** is its capital.

Senegal is a low plateau at a height of 200 m. It receives scanty rains during summer. The *Senegal* river passes along its northern boundary. In the river valley, rice and maize are grown under irrigation. Groundnut is the main cash crop of Senegal grown in large quantities for export. In the plateau, cattle are grazed. Phosphates and ilmenite are the minerals obtained in Senegal.

Dakar is the capital and port of Senegal. It has grown fast in the last few decades. Being the nearest African town to S. America, air routes from Europe converge at Dakar before taking off. It has ship repair yards, fish canning, flour milling and groundnut oil crushing mills. *St. Louis* is another port of Senegal.

Gambia is a small country enclosed within Senegal and lies in the valley of river *Gambia*. Groundnut is its main product and export. Rice is also grown. Palm kernels, beeswax, cured fish and hides are its other exports. The river Gambia is used for transport. **Bathurst**, on the estuary, is the capital.

Mali is mostly a plateau, but hills and sand deserts appear in the north. The river *Niger* flows through Mali from west to east before taking a turn to the south. Most of it is semidesert steppe and desert sands. Livestock rearing is the main occupation. Hides are the main export. Groundnuts are grown in the Niger valley. Gold, phosphates and iron ore have been found, but are not much mined because of high cost and difficulty of transport. The Niger is used to a limited extent for transport. A railway connects Dakar in Senegal with *Koulikoro* in Mali. **Bamako,** also on the Niger, is the capital. *Tombouctou* and *Gao* further east on the Niger valley are important caravan trade centres.

Upper Volta is a plateau at a height of 300 m. drained south by the *Volta* river. It is a transition zone with savanna climate in the south and semidesert in the north. Stock raising is the main occupation of the people. Gold, manganese, bauxite and copper are known to occur but are not mined. **Ouagadougou** is the capital. Livestock products are its main exports.

Niger is a plateau sloping south, with mountains about 3000 m. high, in the north. It is mostly a semidesert. Millets, beans, groundnuts and manioc are grown with great difficulty. Grazing animals is a more important occupation. As in Upper Volta, hides are the major exports.

Chad is a large inland basin around the *Lake Chad*. It slopes from the *Tibesti* mountains in the north to a plateau in the south at a height of 1000 m. The vegetation is semidesert steppe in the north and savanna in the south. In the south, cotton and groundnut are grown. Stock raising is important in the central parts, but the north is thinly peopled. **Fort Lamy** is the capital. It has a meat packing plant. Hides are exported from Chad.

(ii) West Africa

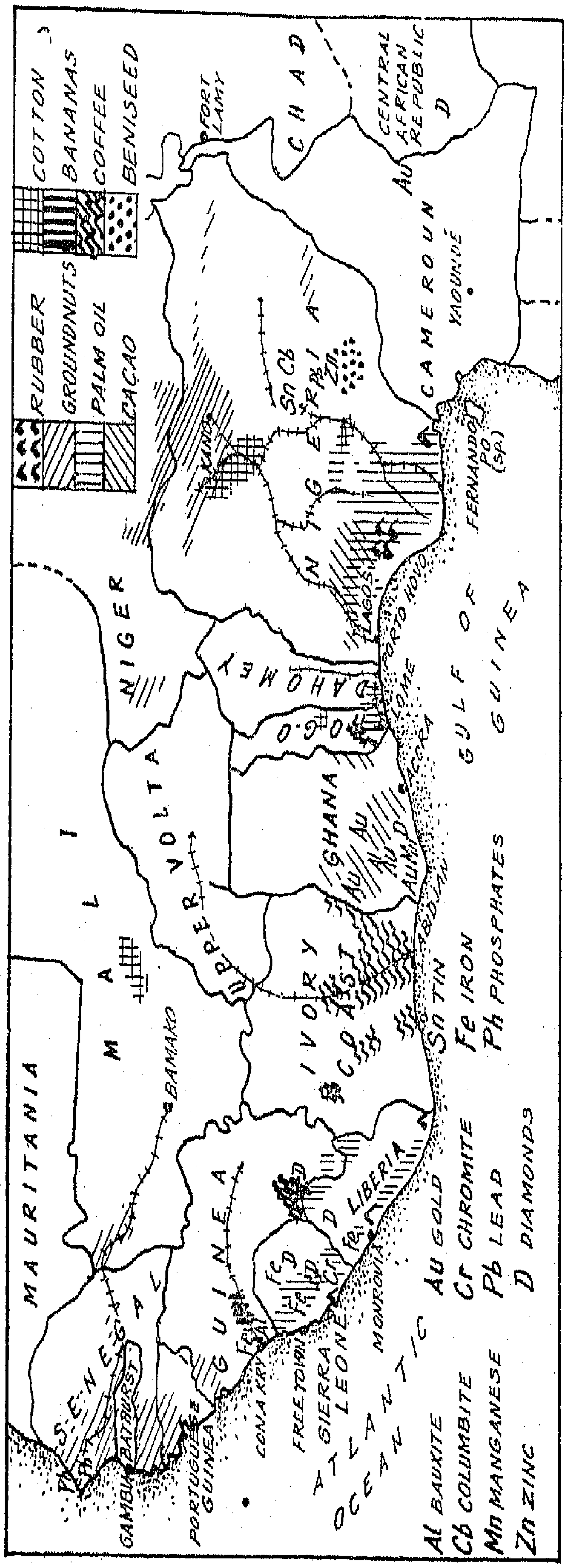
West Africa attracted European colonists soon after exploration, since it was believed to be rich in gold. In fact, the name 'Gold Coast' given to a part of it is quite suggestive. These countries lie along the Guinea coast.

The Sahara lies to the north of these countries. The plateau, underlying the Sahara, slopes south in the northern parts of these countries and merges with the coastal plains. The rivers *Niger* and *Volta* flow south through these countries.

The climate in these countries rapidly changes from south to north and therefore the vegetation also quickly changes. The rainfall in general decreases from more than 200 cms. along the coast to less than 20 cms. along the northern boundaries It rains throughout the year along the coast, but northwards the rainfall is concentrated in summer. The western parts have a distinct monsoon climate. Along the coast, there is a narrow marshy mangrove and equatorial rainforest belt, behind the sandhills and lagoons along the shore. North of this belt, is a region of parkland vegetation, in which trees become fewer northwards. Along the northern parts, the savanna grasses dry up and are replaced by semidesert scrub vegetation.

These countries are primarily agricultural countries. Behind the coastal marshes, there is a belt of oil-palms and cacao plantations. Further inland is the farming belt with maize, millets, and groundnuts as the main crops. Further north, barley and dates are grown, but livestock rearing becomes more important.

Some minerals like gold, diamonds and manganese are mined. There are few industries, but they are fast developing.



Map 46: Countries of West and North Central Africa

The coastal farmlands support a fairly large african population. Agriculture is the main occupation of the people.

Apart from coastal railways, the Volta and the Niger are used for river transport by small riverboats.

The countries in West Africa from west to east include Portuguese Guinea, Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Dahomey, Nigeria, Cameroons and Central African Republic.

Portuguese Guinea lies south of Senegal. It has coastal mangroves backed by a plain and low hills. It has a monsoonal climate with summer rainfall of about 100 cms. Cattle breeding in the hills and farming of groundnut, palm oil and rice in the plains are the main occupations. Waterways are used for transport.

Guinea, that was formerly french, is a plateau descending by steps to a narrow coastal plain. It has a monsoonal climate with a rainfall of 150 cms. Rainfall decreases inland. Bananas in the coastal plain, oranges and pineapples on the plateau are the chief cash crops. Rice, oil palmss kola and maize are also grown. Production of coffee is also increasing in importance. Livestock are reared in the plateau. Iron ore, bauxite, diamonds and gold are mined for export.

Guinea has 30 million people. **Conakry** is the capital and port of Guinea. It is connected by railway with *Kankan* on the plateau. Rivers in Guinea are not useful for transport.

Sierra Leone is roughly circular in shape. A coastal sand-dune and lagoon belt is followed inland by mangrove swamps, backed by a rolling country rising to a plateau, 500 m. high. In the north are the *Loma* and *Tingi* hills. The climate is monsoonal. Rainfall, in summer, decreases from about 300 cms. on the coast

to about 60 cms. inland. The hot, dry *harmattan* wind blows during summers.

Rice is the main crop grown for food, while oil-palms, cacao and coffee are cultivated for export. Kola nuts, sesame, groundnut and ginger are other minor exports. In the north, cattle breeding is important.

Iron ore is mined near *Marampa*. Chromite and diamond are also mined. Fishing for tuna fish is done in coastal waters.

Freetown is the capital and port. Tobacco, soap and furniture factories are found here. It is connected by railway to *Pendembu* inland.

Sierra Leone supports about 2 million people.

Liberia was the first country of Africa to become independent. It lies between Sierra Leone, Guinea and Ivory Coast. It has coastal plains, about 60 kms. wide and a plateau in the north at 500 m. level. The plateau falls by steep slopes to the plain. It has a monsoonal climate with a rainfall of 250 to 400 cms. Most of the one million people of Liberia engage in rice farming though oil-palms, rubber and cacao are grown for export. Iron ore is mined near *Mano* and *Bomi* in the west. Diamond and gold mining is also increasing in importance. **Monrovia** is the capital and port.

The **Ivory Coast**, rectangular in shape, has a, coastal lagoon belt in which palms and bananas grow widely. Behind it is the coastal plain where cacao and coffee are grown. Further north is the plateau with savanna grasslands where livestock breeding and farming of millets, cotton, tobacco, groundnut and sisal are the activities. Gold is got from the river valleys by panning. Inland, in the plateau, manganese and chromium are mined. There are a number of palm oil and flour mills and fruit canning factories. An aluminium factory and shipbuilding yard are located at **Abidjan,** the port and capital.

About 4 million people live in the Ivory Coast. Most of its trade is with France.

Ghana, formerly known as the *Gold Coast,* lies east of the Ivory Coast. It has a coastal plain backed by a low plateau. The *Togo hills* lie in the east. The rainfall decreases northwards and eastwards. The wealth of Ghana is in its cacao plantations. Oil-palm, maize, rice, millet and cassava are also grown. In the hills, good forest-cover is found. Gold, manganese, bauxite and diamonds are mined in the coastal belt.

The *Volta multipurpose project* on the Volta river is nearing completion. It will supply water for irrigation, supply hydel power for the new industries and also provide a navigable waterway

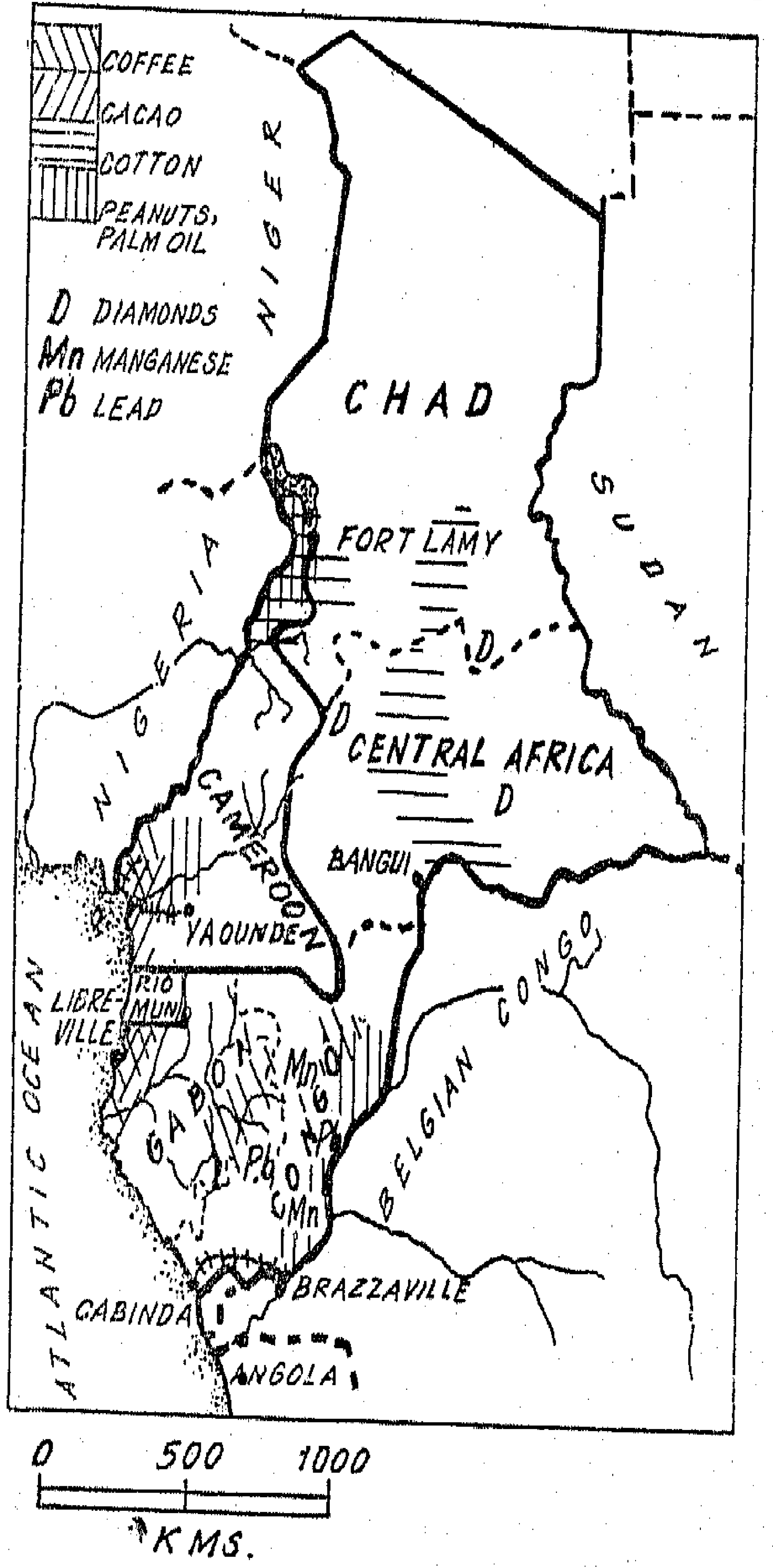
Nearly 8 million africans live in Ghana. **Accra** is the port and capital. *Tema* and *Takoradi* are other ports. At Tema, there is a steel plant and a factory for sheet metal goods. Ghana mostly trades with the U. K. It exports cocoa, timber, gold, diamonds and bauxite.

Togo and **Dahomey,** both former french colonies, are long, north to south but narrow west to east. Barring yams, cassava and maize for food, they produce coffee, cocoa and palm oil for export. Their small size is a handicap for their development. **Lome** is the port and capital of Togo, while **Porto Novo** is the port and capital of Dahomey. *Cotonou* is another fine harbour of Dahomey.

Nigeria is the most densely peopled west African nation with a population of 55 millions. As in other west African countries, south to north, Nigeria has a coastal swamp, a belt of rainforest, a savanna plateau and semidesert in the north. The *Niger* and its tributaries *Kaduna* and *Benue* drain Nigeria.

Nearly half the people are engaged in agriculture. Palms, cocoa and rubber come from the south, while groundnuts and cotton come from the north. Timber of the hardwood type is cut from the rainforests. Livestock are kept in the savanna grasslands for their hides and skins. Coal is mined near *Enugu,* while tin and columbite are mined near *Jos.* Oil is drilled in the coastal swamps and sent by pipelines to *Port Harcourt* for refining.

Nigeria is more advanced than other West African countries in industrial development There are cotton



Map 47 : Chad, Cameroons and Central Africa mills at *Kaduna* in the plateau. *Kano* is a large agricultural market and centre for crafts. *Port Harcourt* has soap and oil factories, while *Ibadan* has fruit canning. Rubber factories are found in *Benin City*, a motor assembling plant at *Apapa* and a steel plant at *Enugu*.

Lagos is the capital and commercial city of Nigeria. It is also a port. Railways run from Lagos up the plateau to Kaduna and *Nguru*. Port Harcourt, Enugu and Jos are also connected by railways. The Niger and its tributaries, Kaduna and Benue, are used by small vessels for transport.

Nigeria exports palm kernels, oil ,cocoa, groundnuts and tin. The U. K. is the main customer.

The **Cameroons**, a former German colony, has a coastal plain and an inland plateau. It has an equatorial climate in the south and a savanna climate in the north. Cocoa, coffee, banana and palm oil are the products in the southern parts, while groundnuts, cotton and millets are of the norhern savanna. Cocoa and coffee are the main exports. **Yaounde,** the capital, is connected by railway with the port *Douala*.

The **Central African Republic** is a plateau at an elevation of 700 to 1400 m. It has a savanna type of climate. Its main products are cotton, coffee and groundnuts. Diamonds and gold are mined for exports. Livestock are not kept in large number in spite of the grasslands because of sleeping sickness. **Banguí,** on the Ubangi, a tributary of the Congo, is the capital and river-port.

Exercises

1. Answer the following :
   (a) Compare the products of Mali, Niger and Chad with those of Senegal and Gambia. Explain the differences.
   (b) What are the major items of export of West African countries ? Why do they export them ?

   (c) Explain how climate, vegetation, occupation and products vary as you go from south to north from the Guinea coast northwards.
2. Explain the location and importance of the following places: Accra, Lagos, Freetown, Tombouctou, Dakar.
3. Classify the countries of North Central and West Africa according to their colonial status as french, british, portuguese and spanish. Which of them still remain as colonies ?

Project Work

1. *Make a table of the countries of North Central and West Africa, as follows :*

Country	*Capital*	*Climate*	*Products*	*Exports*

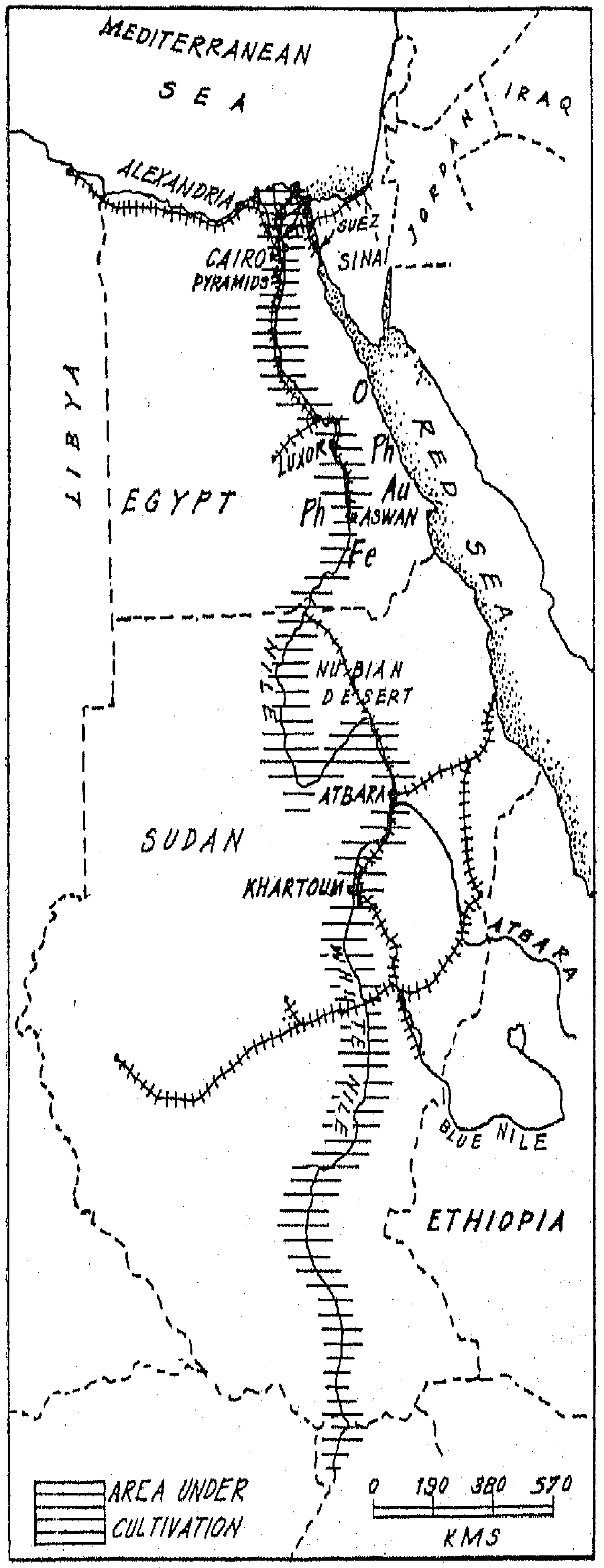
2. *In a journey from Lagos to Kano, what natural regions will you pass through ? What will be their products ?*
3. *With the help of an atlas, find and trace a caravan route from Algiers to Timbouctou. Briefly describe the life in an oasis.*

CHAPTER 14

COUNTRIES OF THE NILE BASIN

The Nile, 6690 kms. long, rises in *Lake Victoria* and tumbles over the Owen Falls to enter into *Lake Albert.* Another source stream rises in the Lake Edward and passes through the Lake Albert into the main stream. After leaving Lake Albert, the Nile flows north, initially forming the boundary of Uganda, and then into Sudan. In its upper middle course, masses of green floating vegetation, called the *Sudd,* covers the Nile and hinders navigation. But this vegetation helps in regularising the flow in the Nile. The Nile gets flooded in early summer by the melting of the snow.

At *Khartoum,* the Nile receives its main tributary, the Blue Nile. The *Blue Nile* rises in the Ethiopian highlands Being fed by the monsoon rains, it is flooded in the late monsoon season. It maintains the flow in the Nile after the floods in the main river. The *Atbara,* also rising in the Ethiopian highlands and flooded during the monsoon season, joins the main river downstream of Khartoum. Below Khartoum, the Nile passes through a waterless desert, and much of its water is lost by evaporation. In its middle course, the Nile has developed rapids in a number of places, that handicap navigation. Near *Halfa,* the river enters into Egypt. From here, to the mouth, it is used for navigation by riverboats. The river forms a delta on the Mediterranean, with two major tributaries, the *Damietta* and the *Rosetta. Cairo,* the largest town of Africa, is on the apex of the delta. The port of *Alexandria* is at the western sea-end of the delta.



Map. 48 : The Nile Valley in Egypt and Sudan

The Nile is the lifeblood of Sudan and Egypt. But for the Nile, the whole of Egypt and Sudan will be a desert. This is well seen from the fact, that all the people of Egypt live on the banks of the Nile, within 5 kms. from either bank. Beyond, stretches the vast sandy Sahara. The Nile waters have been used over centuries for irrigation. Recently, dams have been constructed at *Aswan* in Egypt and at *Sennar* on the Blue Nile in Sudan to supply water for irrigation. A new dam, called the *High Aswan dam* is being built 25 kms. downstream of Aswan to raise further supplies of water for irrigation and electricity. The oldest river valley civilization of the world in Egypt thrived on the banks of the Nile with the help of basin irrigation. The *pyramids* of Egypt and the *Abu Simbel temple* near Aswan (now being shifted to higher ground because of the danger of being lost in the reservoir of High Aswan dam) bear witness to this ancient civilization. The floods in the Nile, coming with regularity, have deposited thick layers of silt and alluvium that have made the soils of Egypt and Sudan proverbially fertile. It is, therefore, not surprising that *Egypt is called the gift of the Nile.*

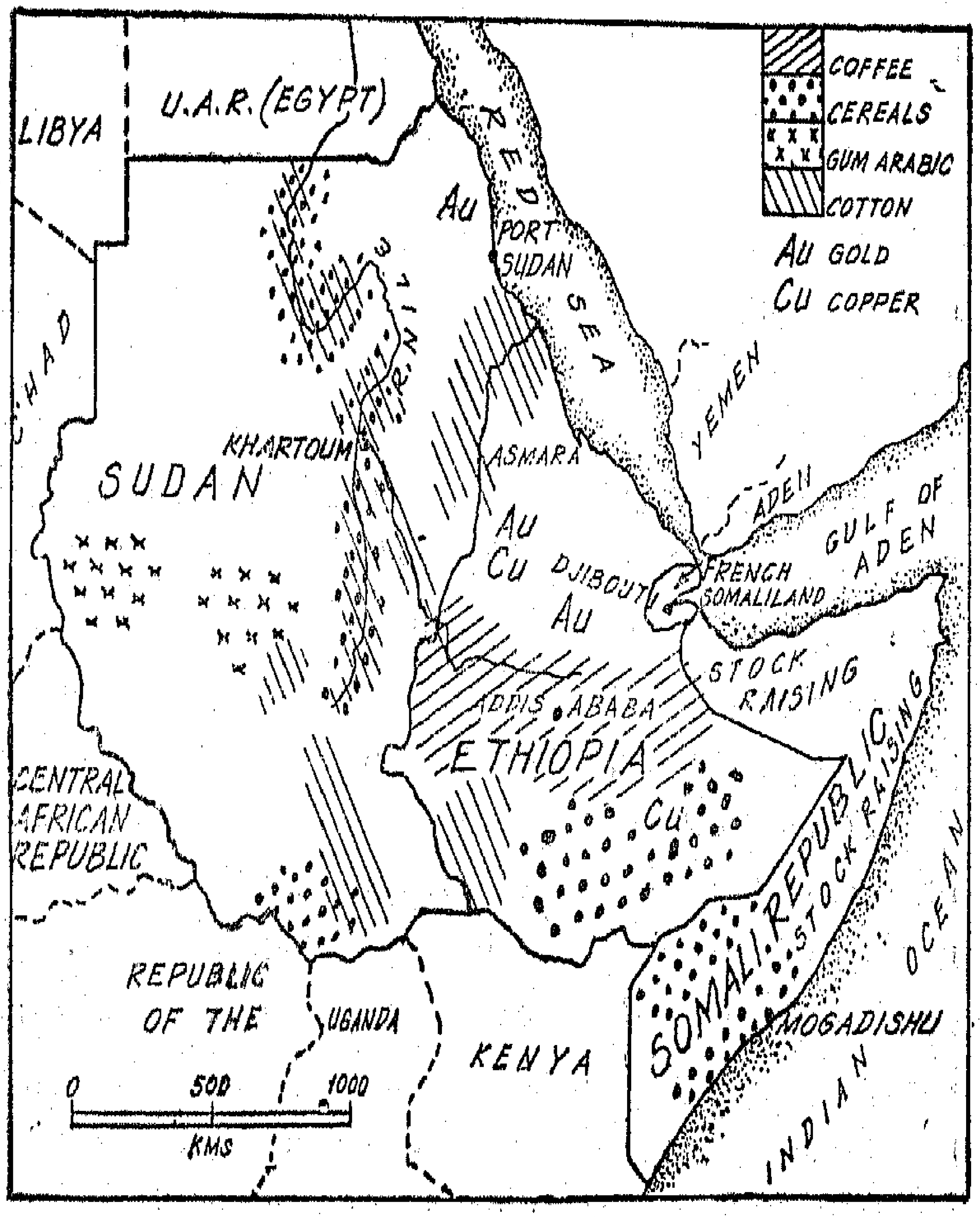
The countries of the Nile valley include Sudan in the upper valley, Egypt in the lower valley and Ethiopia in the highlands. Egypt has a hot desert climate, with little rains. Sudan in the north and west is a semidesert, but in the south has a grassland climate with wet summers. Ethiopia, on the other hand, has a monsoonal highland climate. It differs in many respects from Egypt and Sudan.

(i) Ethiopia

Ethiopia, formerly known as *Abyssinia*, is a kingdom adjoining the *Red Sea.* It is mostly a highland plateau, with plains along the *Red Sea* known as the *Eritrean plains*. The *East African Rift valley* runs north to south through the middle of the country. The Blue Nile rising in *Lake Tana* and the Atbara drain the plateau westward into the Nile. To the east of the Rift valley, small streams flow east through Somaliland to join the Indian Ocean.

The climate of Ethiopia is tropical monsoonal, like India, with heavy rain in the highlands during the season of the summer monsoon. The crest of the plateau has a bracing, cool climate.

Agriculture is the main occupation of the people. At the highest levels of the plateau, above 3000 m., are excellent grazing grounds for cattle, sheep and ponies. At middle levels, between 2000 and 3000 m., the hill slopes are covered by dense monsoon forests, where lumbering is done. In the valleys, with the help of irrigation, oranges, wheat and barley are grown. In the lower hill slopes, coffee is the main plantation.



Map 49 : Sudan, Ethiopia and Somalia

The Eritrean plains are semidry steppes with millets as the main crops.

There are no minerals in Ethiopia. Industries are yet to develop.

Ethiopia is a progressive kingdom in which 23 million people live. They are christians or muslims. They speak *omharic.*

Addis Abbaba on the plateau is the capital. *Asmara* and *Assab* are Red Sea ports. A railway runs from Addis Abbaba to the Red Sea port of *Djibouti.* The Imperial Highways connect different parts of Ethiopia.

(ii) French Somaliland

French Somaliland on the Red Sea coast is almost a barren desert. Its only importance to the French people is its port *Djibouti* on the Red Sea.

(iii) Sudan

Sudan, the largest country in Africa became free in 1956. Sudan is a gently sloping country between 200 and 500 m. Along the eastern, Red Sea coast, there are mountains rising to heights over 3000 m.

The west and north are deserts, while the south has a savanna climate. The river *Nile* flows south to north through Sudan. The *Sobat,* the *Blue Nile* and the *Atbara* join it on its eastern banks.

Long staple cotton is the main crop of Sudan, grown with the help of irrigation in the river valleys. The *Sennar dam* on the Blue Nile and the *Khashm el Girba* dam on the Atbara supply most of the irrigation water. Away from the river banks, groundnuts, millets, sesame and fodder crops are grown. With the construction of the High Aswan dam, a million acres of land will be further brought under irrigation and this will help in expansion of area under cotton and rice cultivation.

Gum arabic is a major product derived from the trees of the savannas and semidesert of the west. It is exported in large quantities.

Gold, copper, manganese and iron are mined in small quantities in the northeastern hills. Industries are few. There are cotton mill at *Khartoum,* sugar mills at *Khashm el Girba* and *Goneid* and food processing plants at *Wau* and *Karima.* Oil refineries are being built at *Port Sudan* on the Red Sea and at *Er Rosieres* on the Blue Nile

A railway runs from Khartoum along the Nile to *Wadi Halfa* on Egypt border. Railways connect Khartoum with Port Sudan, *Er Rosieres* and Wau. The Nile is used to a limited extent for boat transport.

Cotton and gum arabic are the main exports. Britain and India are the main customers.

(iv) Egypt

Egypt, a larger part of the *United Arab Republic,* is a progressive African country. It falls into the following physical divisions :

(i) The valley of the Nile, intensely irrigated and cultivated and densely peopled; (ii) the Nile delta with delta irrigation measures and coastal mangroves; (iii) the Sahara on either side of the Nile valley practically uninhabited and important only for its caravan routes; and (iv) the Sinai peninsula, beyond the Suez Canal.

Egypt has a desert climate, with scanty rains. It depends entirely on the Nile for its water supply.

The Nile valley and delta are intensely irrigated. Basin irrigation is still adopted. The *Aswan dam* and delta irrigation works irrigate narrow strips of land on either side of the river banks. The *Faiyum* district, west of the Nile in the Sahara, is the only desert region irrigated by canals from the Nile. The construction of the High Aswan dam will further augment irrigation in the Nile valley.

Cotton is the 'king' crop of the Nile valley. It is the best grade long staple cotton, in great demand all over the world. Rice, wheat, barley and sugarcane are also grown with the help of irrigation. Wheat and barley are winter crops while rice, cotton and tobacco are summer crops. Away from the valleys in the *wadis* and oases of the desert, dates and millets are the main crops.

There are few minerals in Egypt. Oil is drilled in the *Sinai* peninsula. Iron ore is mined near *Aswan*, manganese in *Sinai* and phosphates in the desert.

Industries are fast growing in Egypt. There are cotton mills at *Alexandria*, *Cairo* and delta towns. Oil is refined at *Port Suez*. Steel is made at *Helwan* and fertilisers at *Aswan*.

Nearly 30 million people live in Egypt. Most of them live crowded on the river banks and delta. Away from the river, there are very few people.

Cairo on the apex of the delta is the capital and centre of railways and international airways. It is the largest city of Africa with 3·4 million people. *Alexandria*, the second city of Egypt, with 1·5 million people is the main port and industrial centre. Textiles, rice milling oil refining and ship repairs are its mallion industries. *Port Said* and *Port Suez* are ports controlling the Suez canal. *El Faiyum* and *Aswan* are large inland towns. Nearby *Gezeh* are the ancient *pyramids* of Egyptian kings and the *Great Sphinx*. At *Luxor* are old temples in ruins.

The Nile is used for boat traffic. These sail boats, called *fellucas*, carry most of the goods from Aswan, downstream. Railways run from Aswan to Cairo and the delta towns.

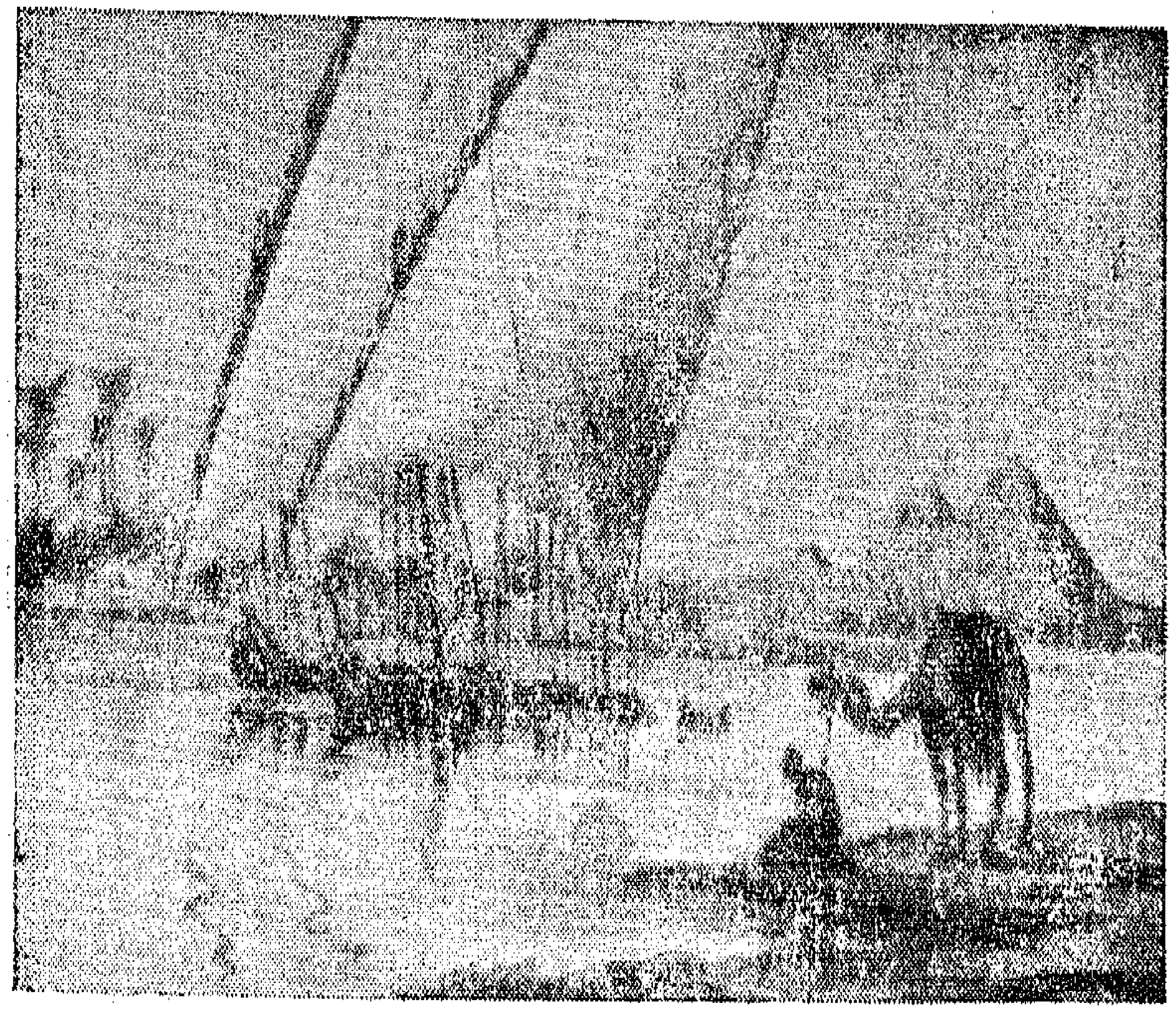
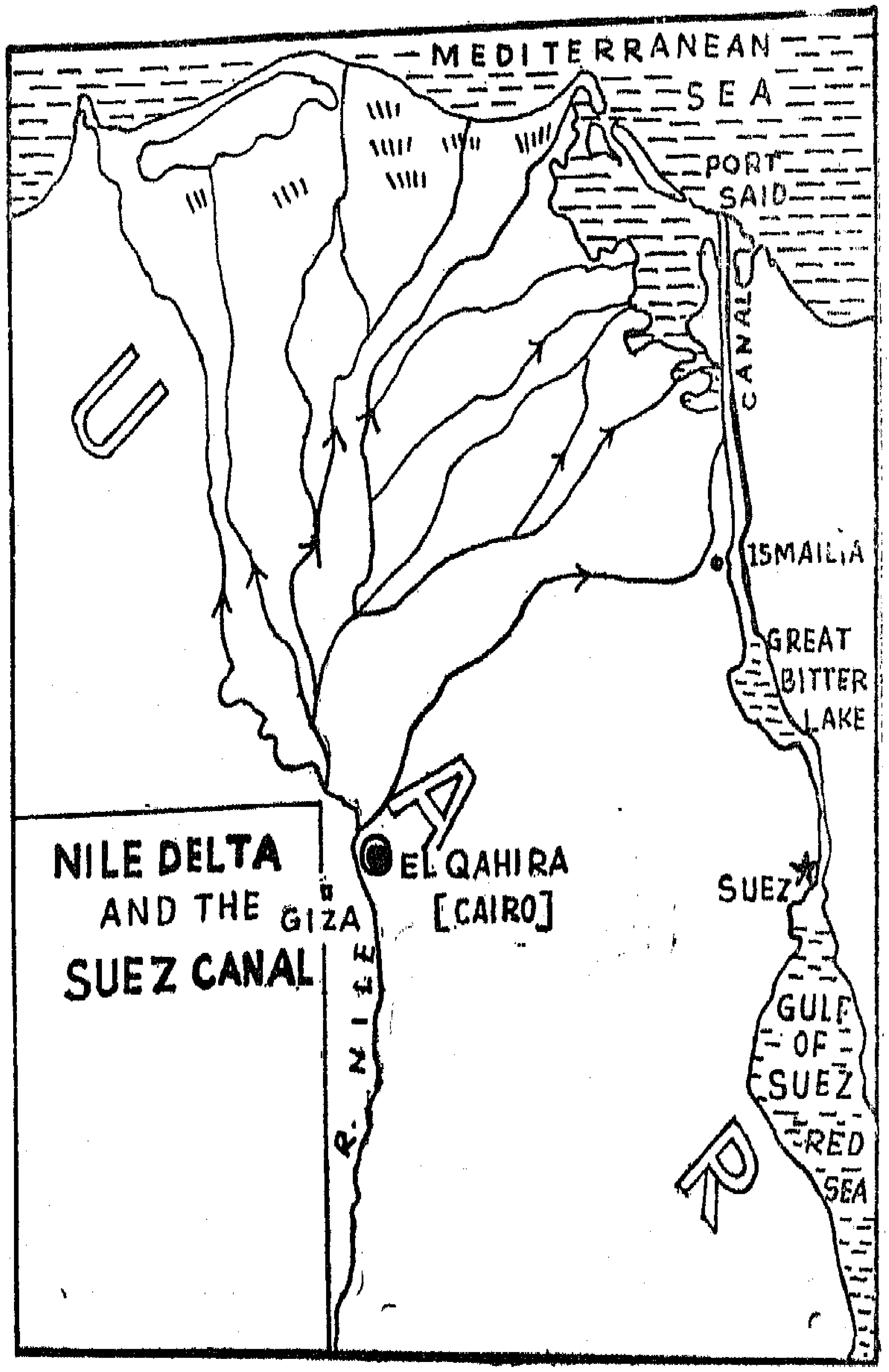


Fig 11 : Sailing in the Nile. The pyramids are seen in the background

Egypt exports long staple cotton, rice, oil, dates and wheat. India imports cotton, rice and wheat from Egypt.

The **Suez canal,** about 170 kms. long, 12 m. deep and 65 m. wide at its narrowest, connects the Mediterranean Sea with the Red Sea It was constructed by a french engineer, *Ferdinand de Lesseps*, and opened for traffic in 1869. It is an international canal at sea-level. Port Said is at its Mediterranean Sea end, and Port Suez at the Red Sea end. It passes through the Bitter Lake. The canal is entirely within Egyptian land; it was nationalised in 1956 to find resources for building the High Aswan dam. It takes 14 hours to cross the canal. The canal can handle 50 ships per day. It handles nearly one-eighth of the world trade. The canal levies bring large income to Egypt. Oil, mineral ores, grain and pastoral products move north through the canal; machinery and manufactured goods move south through it.



Map 50 : Suez Canal

Exercises

1. Answer the following :
   (a) Why is cotton the main export of Egypt and Sudan ?
   (b) State the products of Ethiopia and the areas where they grow.
   (c) Why are the Red Sea ports of Sudan and Ethiopia not much useful ?

   (d) Why do most of the people of Egypt live along the Nile ?
   (e) Give an account of the railways in the countries of the Nile basin.
2. Trace the course of the Nile from its source to mouth. Mention the places where dams are built on the Nile and its tributaries. Briefly mention the benefits endowed by the Nile on Egypt and Sudan.
3. Explain the importance of the following places :
   Khartoum, Cairo, Port Suez, Addis Abbaba.
4. Why is the High Aswan dam built ? Where is it built ?
5. Match the following :

Place	**Industry**
Aswan	Steel mill
Alexandria	Oil refinery
Port Sudan	Fertiliser
Khashm el Girba	Ship-repair yard
Helwan	Cotton mill
Khartoum	Chemicals
	Sugar mill

Project Work

1. *Find out details of basin irrigation in Egypt.*
2. *Collect pictures and details of Abu Simbel temple, Pyramids, sphinx and other old temples of Egypt and Sudan.*
3. *Describe a journey in a river boat from Khartoum to Cairo.*

CHAPTER 15

EAST AFRICA AND MALAGASY

East Africa extends from Sudan and Ethiopia in the north to the Zambesi river in the south and from the rift valley to the Indian Ocean. The equator runs across it.

Broadly, East Africa falls into two physical divisions : the narrow Indian Ocean coastal plain and the East African highlands. The land falls through steep escarpments from the highland to the plains. The highlands can be further subdivided as :

(i) The northern and central plateaus at an average height of 1500 m.

(ii) The eastern rift valley in which lie lakes *Rudolf, Baringo, Nalkurn, Magadi, Natron* and *Malawi.*

(iii) Along the western edge is the western rift valley, with steep walls and flat bottom in which lie lakes *Albert, Edward, Kivu* and *Tanzania.*

(iv) Between the western and eastern rift valleys lie the *Lake Plateau* and the Lake Victoria. While the western rift valley is flanked by the Mt. *Ruwenzori*, many snowclad high volcanic peaks adjoin the eastern rift valley. They are the peaks, *Kilimanjaro*, Elgon and *Kenya.*

East Africa has a variety of climates ranging from equatorial in the Lake Plateau to semidesert and desert type in Somalia coast. Coastal Kenya has an equatorial lowland climate; Tanzania has a savanna climate. Most of the central highlands have upland tropical and subtropical climates.

Though forests are found in better watered valleys and in the western parts, tall grasslands are the characteristic vegetation of the highlands. They are full of wild game and there are many game sanctuaries.

East Africa is mainly a farm country with a variety of products like cotton, coffee, tobacco, and spices. Industries, too, are springing up in these young, growing nations.

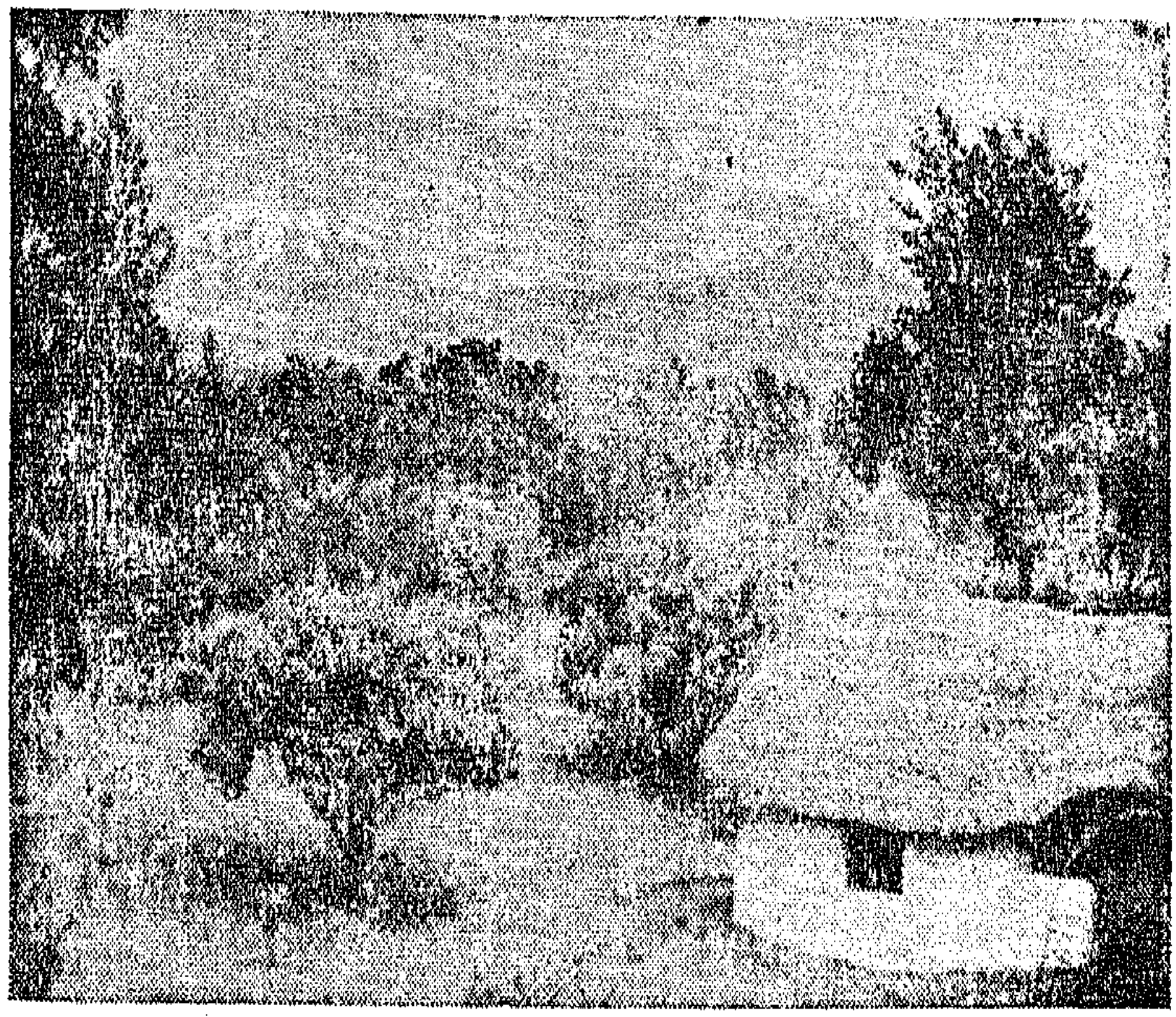


Fig. 12 : An African House in E. Africa
Note that it is circular. The snowclad peak Kilimanjaro is in the background.

East Africa has attracted European settlers on account of its pleasant and cool upland climate and rich agricultural possibilities. Asian traders and labour population have also settled in large number in East Africa. The local population belongs to tribes of Bantus. *Swahili* is their language. These highlands, moderately densely peopled, have a bright future.

East Africa includes Somalia, Kenya, Uganda, Ruanda, Burundi, Tanzania, Malawi and Mozambique.

(i) Somalia

Somalia occupies the eastern horn of Africa. It has a narrow coastal plain backed by low hills and a plateau at a height of 2000 m. It is mostly a waterless desert and semidesert. Rearing of livestock is the main occupation of most of the 2·5 million people. Gums and resins are collected from the trees of the steppes. In the southern river valleys, rice, millets and cotton are grown. **Mogadishu** is the capital and port.

(ii) Kenya

Kenya is mostly plateau at 2000 m. descending steeply to the eastern coastal plains. The coast has an equatorial lowland climate, becoming drier northwards. The upland has a cool rainy climate, and is covered by extensive grasslands. The reliable, high rainfall, and high temperatures favour the growth of a variety of crops like coffee, tea, maize, cassava, pulses, potatoes, tobacco and sugar. Dairy and beef cattle are also reared in large numbers. There are no minerals. Only sugar and flour mills are the industries.

In the coastal lowlands cashew and cotton are the main crops, besides palms. The higher hill slopes are covered by forests of the tropical hardwoods.

The vast grasslands support wild life.

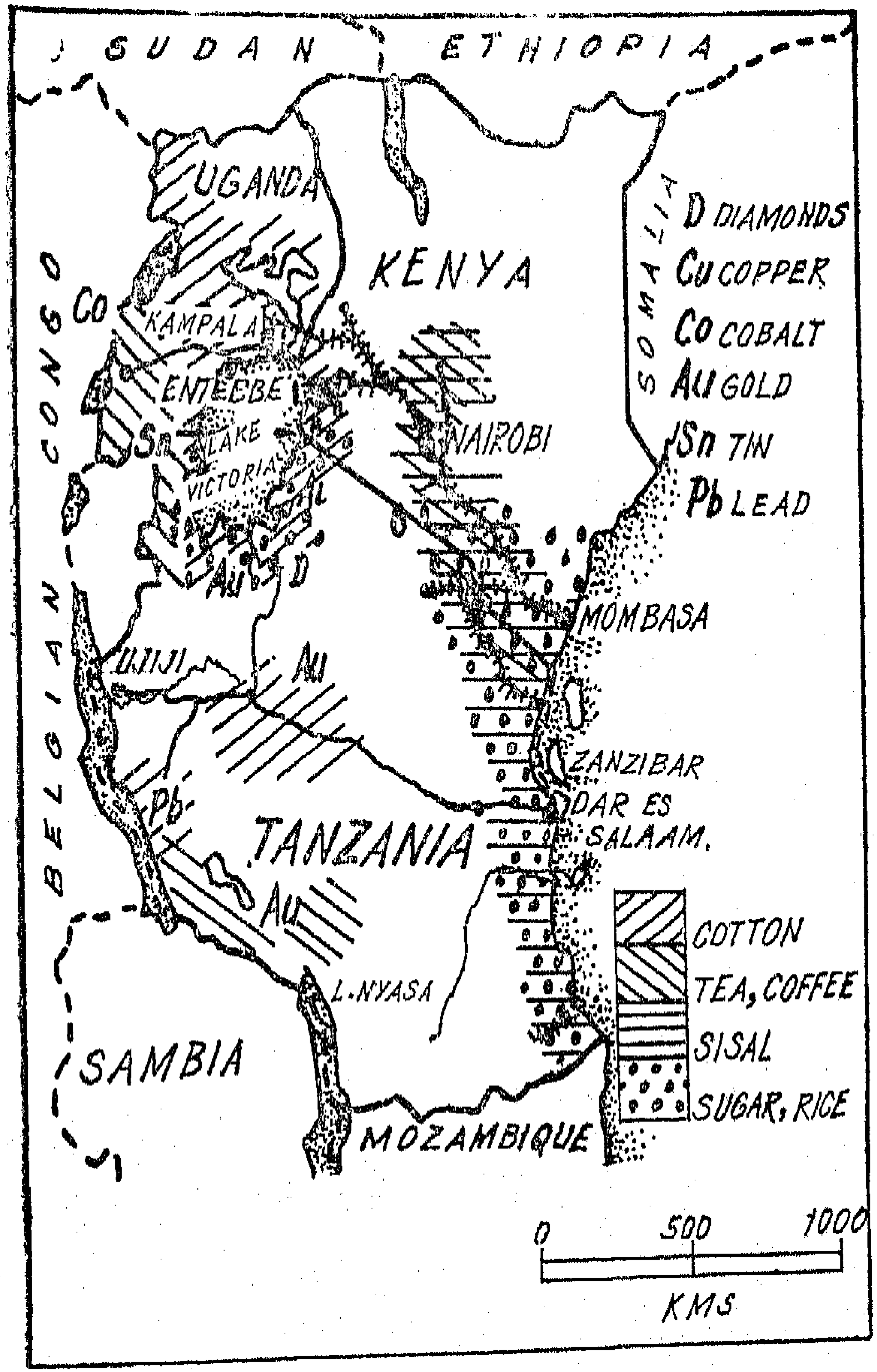
Kenya has 9 million people, mostly living in the uplands and around Lake Victoria. **Nairobi** is the capital, international airport and rail terminal. *Mombasa*, on the Indian ocean, is the port handling the trade of Kenya, Uganda and Tanzania.

Exports of Kenya are coffee, tea and tobacco; imports are foodstuffs, textiles, machinery and manufactured goods.

(iii) Uganda

Uganda lies between the two rift valleys and is mostly a part of the Lake Plateau. Lake Edward and Lake Albert are found on its western margins. Peak *Elgon* lies on its eastern boundary. To the southeast is Lake Victoria.

The plateau is at a height of over 1000 m. The climate is equatorial, except in the rift valleys.



Map 51 : East Africa

Farming is the main activity of the 8 million people of Uganda. Coffee and cotton are the two crops grown for export. Tea, sugar, sisal, tobacco, maize and groundnuts are also grown and exported. Cattle are kept in the east, but in the rift valley, animals are not kept because of the *tsetse* flies.

Fishing is done in the lakes on a large scale. Near *Kilembe* on the west, copper and cobalt are mined. Phosphate is found on the eastern parts.

Power from the *Owen falls* is used in a number of small industries like sugar refining, tobacco industries, cotton ginning and flour milling.

Kampala is the capital of Uganda. *Entebbe* is a lake port on the Lake Victoria. Most of the trade of Uganda passes through Mombasa.

(iv) Ruanda and Burundi

Ruanda aud Burundi are small elongated countries lying between Lake Edward and Lake Tanzania. They occupy the crest of the watershed between the Nile and the Congo. There is a central plateau, sloping towards the lakes. The climate is subequatorial. Coffee is their main cash crop, but groundnuts, maize, sorghum and cassava are grown for food. Tin is mined in Ruanda.

5.5 million people live in these two countries. *Kigali* is the capital of Ruanda and *Bujumbara* of Burundi.

(v) Tanzania

Tanzania is a free state formed by grouping together *Tanganyika*, *Zanzibar* and *Pemba*. In relief, it is a plateau at a height of 1000 m. with narrow coastal plains. Zanzibar and Pemba are offshore islands. Agriculture is the main occupation of the population, which is 22 millions. Millets, bananas and yams are grown for food, but sisal, coffee, cotton and tea are grown for export. Cotton grows in the coastal plains, while coffee grows on the upland slopes. Cashewnut is grown in the coastal hills and exported to India. The plateau is a vast grazing land but not much livestock is reared because of a long dry season and the dread of the tsetse fly.

Diamonds are mined at *Mwadui* near Lake Victoria, which lies to the northwest. Lead, copper, gold and silver are also mined. Coal is mined on the southwestern shores of Malawi lake.

The offshore islands of *Zanzibar* and *Pemba* are noted for cloves and clove oil. They supply bulk of the world's demand for cloves. Coconuts are also exported.

Dar es Salaam is the port and capital of Tanzania. Railways run from here to the shores of lakes Tanzania and Victoria. It handles the trade of Tanzania as well as that of the Katanga region of Congo republic. *Zanzibar* is another major port.

(vi) Malawi

Malawi, formerly known as Nyasaland, is a long and narrow country to the west and south of Lake Malawi. The *Shire*, a tributary of the Zambesi, runs south from the lake. The lake and the Shire valley are in the rift valley and the rest of the area in uplands. The climate is tropical and it rains in summer.

Tobacco, cotton, rice and groundnut are grown in the Shire valley and tea, maize and millets in the uplands. Fishing is done in the lake. Bauxite and coal are mined in small quantities.

About 4 million people live here, mostly in villages. **Zomba**, at the foot of the southeast highlands, is the capital but *Blantyre* in the Shire valley is the biggest town. *Fort Johnston* is a port on the Lake Malawi.

The main exports are tobacco, tea, cotton and groundnut.

(Vii) Mozambique

Mozambique, a portuguese colony with a population of 7 millions, lies south of Tanzania along the coast. It has a high plateau inland and a coastal plain, the two being connected by steep slopes. The *Zambesi*, the

Limpopo and the *Pungue* rivers flow west to east, and form rapids while jumping down from the plateau. The Zambesi forms a delta in the central parts of the plain. The climate is tropical, with moderate summer rains. Rainfall decreases from north to south.

Coconuts, cotton, sugarcane and sisal are the main products of the coastal plains. Bananas, pineapples and oranges grow in the southern parts along the Limpopo valley. Maize and millets are raised in the plateau. Cattle are not much grazed because of the menace of the tsetse.

The plateau is rich in gold. Gold and copper are mined near *Macequece*. Coal and iron ore are mined in the Zambesi valley at *Zumbo*, *Tete* and *Sena*. But there are no industries in Mozambique.

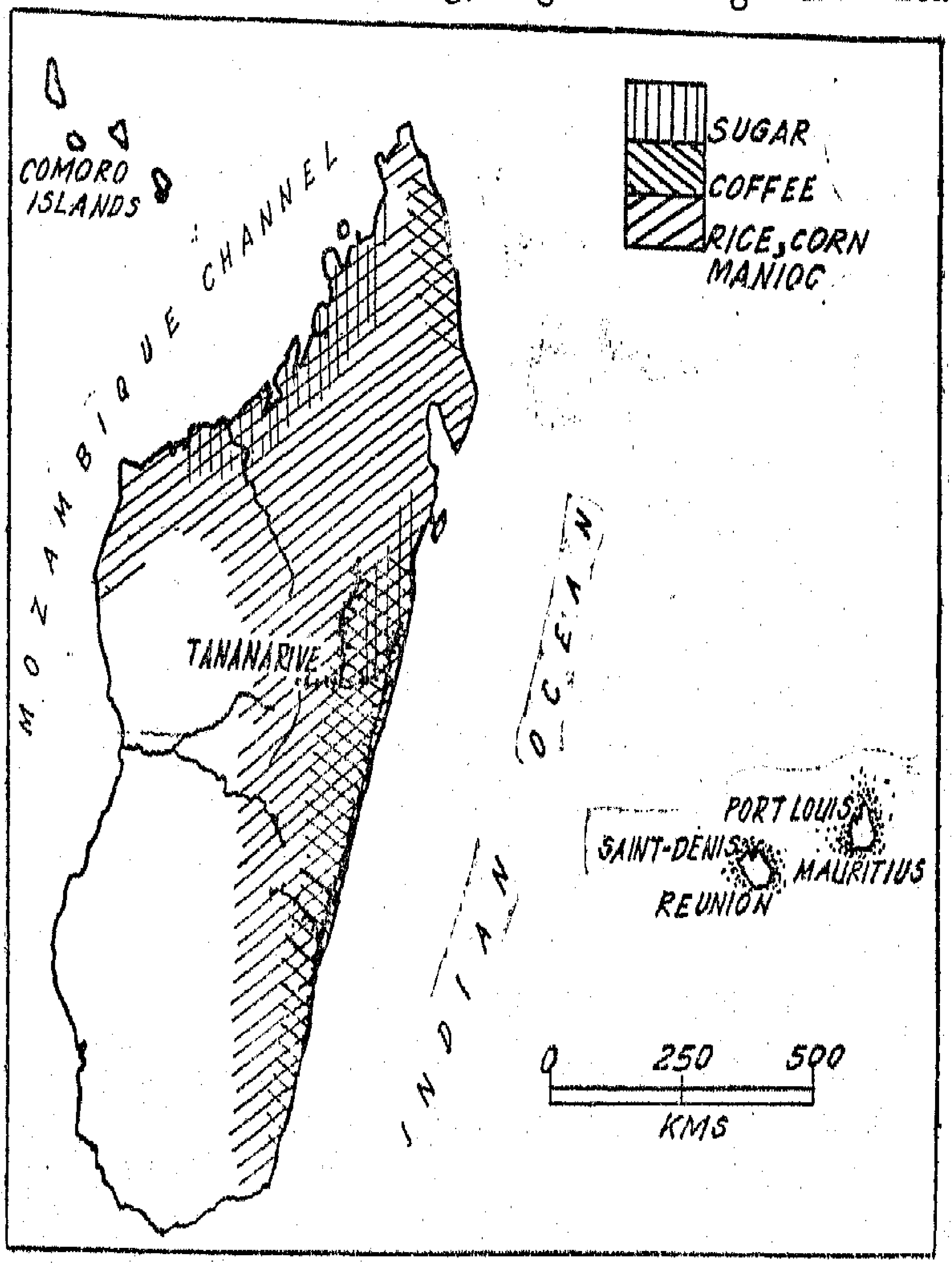
Lourenco Marques in the southern coast is the capital. The *Zulus*, an interesting tribe, live in the land to the west of the capital *Beira*, *Mozambique* and *Sofala* are other ports. Railways connect the ports with the interior towns of South and East Africa and this helps in the country getting a good income from transit trade passing through these ports. Coal, copper and agricultural products are exported.

(Viii) Malagasy

Malagasy, or Madagascar as it was formerly known, is an island on the southeast shores of Africa, separated from the mainland by the Mozambique channel. It lies between 12° N. and 26° N. latitudes It has a mountainous backbone and narrow coastal lowlands. The eastern coasts are narrower and more rainy.

It has a warm equable climate. The western plains are drier and there is a sandy desert in the southwest. There are good forests in the hills. Stock raising and farming are the occupations of the 7 million people

who live in Malagasy. Coffee and rice are the main crops, but maize, manioc, cloves and sugarcane are also grown. Rice milling, sugar refining and meat preserving are the main factories. Graphite, mica and phosphates are mined.



Map 51 : Malagasy

Tananarive in the uplands is the capital. *Manakara*, *Tulear*, *Majunga* and *Diego Suarez* are the ports.

Malagasy exports vanilla, clove, rice, tobacco and minerals.

Exercises

1. Answer the following :

(a) Compare the products of Kenya and Tanzania.

(b) Which of the East African countries lie inland ? How do they export their products ?

(c) Why is cattle rearing not equally important in all East African countries ?

(d) Name the main lakes of East Africa, and state in each case the countries that adjoin them.

(e) Name the major spice, coconut, coffee and cotton producing regions of East Africa.

2. Divide East Africa into physical units. State which countries in East Africa have equatorial, savanna and semidesert climates.
3. Name all the countries of East Africa, their capitals, products and exports.
4. Fill in the blanks :

(a) ______ and ______ produce most of the clove of the world.

(b) Entebbe lies on the shores of Lake______

(c) Most lakes of East Africa lie in______.

(d) ______ is the capital of Malagasy.

(e) Dar es Salaam is the port of______.

Project Work

1. *Collect pictures of wild animal life in East Africa. Collect details of information regarding national parks.*
2. *Describe a journey on land from Beira to Kampala, naming the countries through which you will pass.*

CHAPTER 16

CENTRAL AFRICA

Central Africa comprises Equatorial Africa or Congo basin, the Portuguese West Africa and the savanna lands, south of the equator. The countries included are Congo Repubic(Brazzaville), Congo Republic (Kinshasa), Gabon, Angola, Zambia and Rhodesia. Rio Muni and Kabinda, just north of the Congo estuary are also included in this region.

The entire Congo basin and the upper Zambesi course are within this region. The *Congo* rises in the uplands to the south of Lake Tanzania, flows south and then north through the *Lake Mweru* for a long distance, before turning west. Where it turns west, it falls over the *Stanley falls.* Upstream of these falls, the Congo is known as the river *Lualaba.* Flowing west, it is joined by a tributary, the *Ubangi,* to its left. Close to the mouth, it descends from the plateau through the *Livingstone falls* and *Stanley pools* to form a wide estuary in the Atlantic. The Ubangi rises near *Lake Albert* in Sudan and flows west. The *Kasai* is another major tributary, rising in the Angola plateau and flowing north. The Congo basin almost entirely lies in the equatorial climatic region and hence the rivers have large volumes of water. The Congo is much smaller than the Nile, yet it discharges more water into the sea, because of this reason.

The upper course of the *Zambesi* also lies in this region. It rises in the Angola plateau and flows south and then east through the region. The *Cubango* and the *Kafue* are its major tributaries. After the Cubango joins the main stream, the Zambezi tumbles and roars over the *Victoria falls.*

The Congo basin is circular, with streams flowing in from various directions. It lies below 500m.

It is surrounded by higher plateaus on all sides. The highest elevations within the region lie in the Angola plateau that forms a watershed between the north flowing Congo drainage and the south flowing Zambesi drainage.

The region has an equatorial lowland climate in the Congo basin; the southern, Zambesi valley, however, has a tropical summer rain type of climate.

Vast areas lie in thick tropical hardwood jungles infested with reptiles and wild forest animals. The southern parts are grasslands.

The area is extremely rich in a variety of minerals. Copper, diamonds and gold are the main wealth though other minerals are also mined. Mostly primitive tribes live in cleared forest areas in the Congo valley, but colonial people have introduced plantations. Cacao, oil palm, rubber, banana and coffee are grown in the south and tobacco, maize, coffee and cotton in the south.

The rivers are the highways of commerce. Vital railways have been built to carry the minerals to the ports for export.

The Zambesi valley has more people than the Congo basin, because the latter area is forestclad and has an unhealthy climate.

Let us study in brief about the different countries included in this region.

(i) Gabon and Rio Muni

Gabon lies on the equator along the Atlantic coast. It is a small country, a former french colony. At its northwestern corner is the small spanish colony called *Rio Muni*.

The region is a plateau with a coastal lowland. Its equatorial climate helps the growth of dense equatorial

rainforests. Mahogany is the main timber product of these forests. The timber is floated in rivers and transported to sawmills on the coasts. Gabon has a more prosperous sawmill industry than its larger neighbours because of its coastal location and the ease with which the logs can be brought in rivers.

Mineral oil is drilled along the coast near *Port Gentil* and brought by pipelines to this port. Manganese is mined along the Congo frontier. Uranium, gold and bauxite are the other minerals of the state.

It has less than half a million people, mostly africans, living on the coasts. **Libreville** is the capital and port.

The main exports are timber, mineral oil and other mineral ores.

Cocoa, coffee and timber are the products of *Rio Muni*. *Bata* is its capital.

(ii) Congo Republic (Brazzaville)

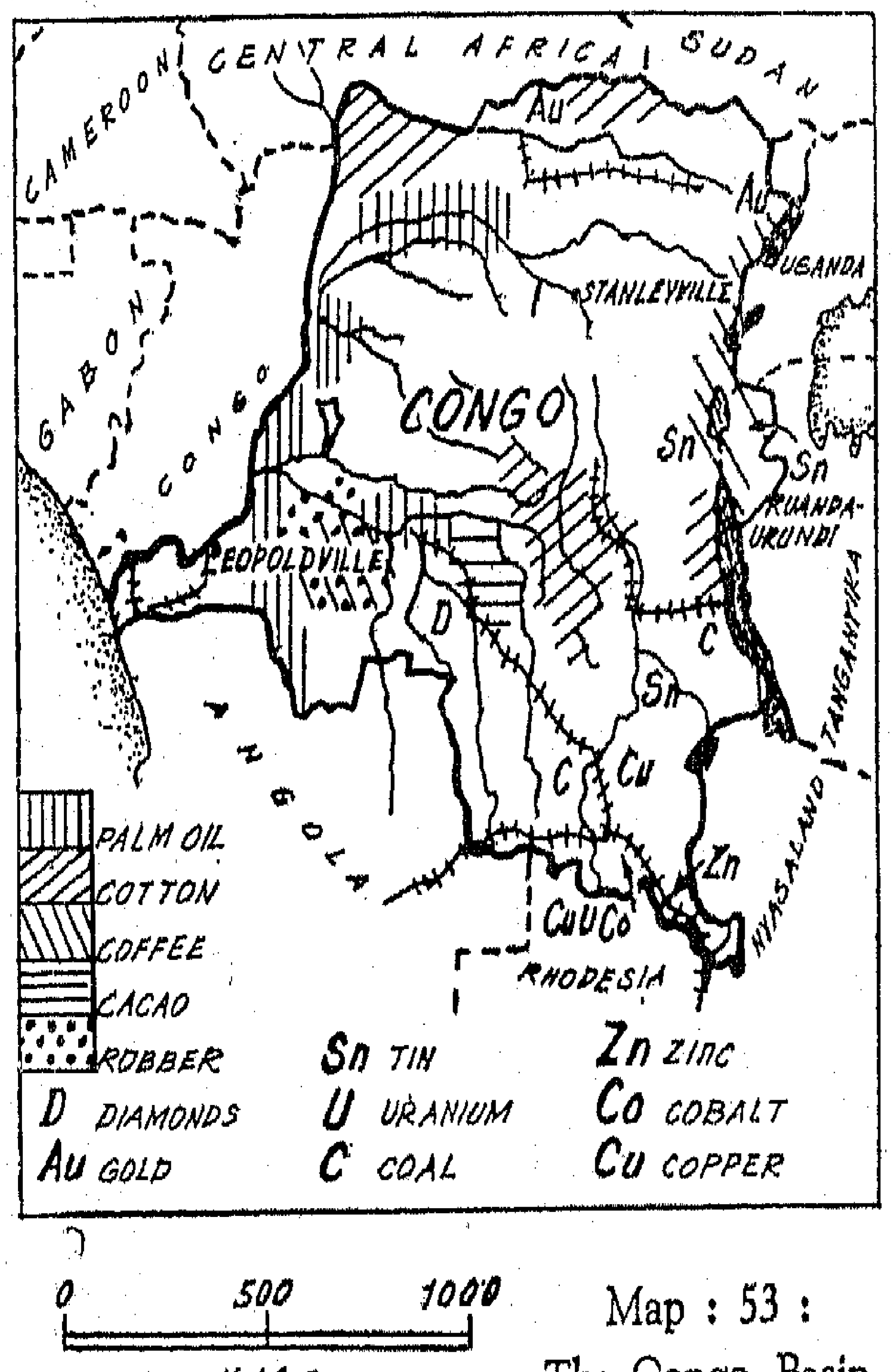
There are two Congo Republics. The bigger one occupying the Congo valley was a former Belgian colony. The smaller one lying between Gabon and the Ubangi river was the former French Middle Congo. Its capital is **Brazzaville**. To distinguish between the two republics, the smaller one is called Congo Republic (Brazzaville).

The Congo Republic (Brazzaville) is a tropical rainforest region with an equatorial climate. Timber is its main product. Oil is drilled near the *Porte Noire*. Copper and lead are mined along the lower Congo valley. Palm oil and groundnut are the agricultural products and exports. Less than a million people live here.

Kabinda, a portuguese colony lies along the coast, south of Porte Noire. It is on the Congo estuary.

(iii) Congo Republic

The larger Congo Republic occupies the entire Congo valley. It is a circular depression with a bordering plateau. The land rises in steps from the depression to the plateau. High ground is found along the eastern and southern boundaries.



Map : 53 :
The Congo Basin

The climate is of the rainy equatorial type, but along the southern boundaries becomes tropical summer rainfall type. Rainforests cover the entire region, and have been cleared in patches along the rivers and in the margins.

The real wealth of Congo lies in its rich variety of minerals. The mineral interests were opened by the Belgians. The most important mineral mined at present is copper. Copper is mined by the *Union Miniere Corporation* mainly in the *Katanga* province along the southern borders. The main mining centres are *Elisabethville* (now called Lumumbashi), *Kolwezi* and *Jadotville*. The copper mines also mine in association zinc, lead, cobalt, cadmium and germanium. The Katanga region is the fourth largest producer of copper and the greatest producer of cobalt in the world.

The second important mineral of Congo is diamond. Diamond mining increased in importance in the Congo, ever since the Kimberley diamond mines of S. Africa were closed. Diamonds come mainly from the Kasai river valley. *Port Francqui* on the confluence of the Kasai with its tributary, *Sankuru*, is the diamond collection centre. Uranium is another mineral of growing importance obtained in Katanga together with gold, platinum and radium. Tin is mined in the Lualaba valley and gold is got in a number of places in the eastern highlands. Coal is mined in the eastern highland near *Albertville* and near *Bukama* in Katanga.

Farming is only of secondary importance in Congo. In patches of cleared forest lands, rubber, cacao and oil-palm are grown. In the southern parts, tobacco and cotton farming as well as cattle grazing are of some importance.

Barely 15 million people live in Congo. Apart from a small number of Europeans, the population includes three groups of people : the negroes, the pygmies and the hamites. The *hamites* live in the eastern highlands. The *pygmies* live in the deep forest interiors and are the most backward. They live by hunting and fishing. They live in small groups. Their villages are groups of huts in forest clearings. Some even live in trees. The *negroes* are the biggest group living in river valleys; they engage in farming, grazing and work as labourers in mines. *Kikongo* and *Lingala* are their languages.

Kinshasa, formerly known as Leopoldville, on the opposite side to Brazzaville, on the other bank of the Congo river; is the capital. *Kisangani* (formerly Stanleyville), *Lumumbashi* and *Kalemie* (formerly Albertville) are the other important towns.

Copper, diamonds and other minerals form half the exports of the Congo. The other exports include timber and agricultural products.

The Congo and its tributaries are used in sections for transport. But they cannot be used in a single stretch from source to mouth because of waterfalls and rapids in their courses.

Railways prove useful in transporting minerals. From Lumumbashi, railways run to Beira in Mozambique, to Lobito in Angola on the Atlantic coast, to Port Francqui on the Kasai and to Kindu and Albertville. There are railways from Kinshasa to *Matadi* on the estuary, and from Kisangani to *Ponthierville* to circumvent waterfalls in the river and to tranship river cargo.

(iv) Angola

Angola, a portuguese colony, consists of a plateau at a height of 1000 to 2000 m. descending by steps to coastal plains. The plateau is highest in the middle and forms a watershed between the Congo and the Zambesi drainages. It has a 1500 km. long coastline.

The plateau has a savanna type of climate and grassland vegetation. Because of the influence of the cool *Benguela current* that flows along the coast, the coastal lowlands are dry and cool.

The five million people of Angola are mainly farmers. Coffee on the plateau slopes, sugar, cotton and sisal in the lowlands, maize on the plateau and oil-palms in the northern river valleys are the crops.

A number of minerals are also mined. Copper in the northern and southern coastal areas, manganese and iron in the plateau and diamond in the Kasai valley are the minerals. Coal is mined in the *Bihe* plateau in the watershed. Oil is drilled near *Luanda*.

There are few industries. Cellulose is the main industry developed with the help of local wood pulp.

Luanda is the main port and capital. *Lobito*, *Mozamedes* and *Porto Amboim* are the other ports.

The Benguela railway from Lumumbashi to Lobito runs east-west across the country and serves Katanga and Angola; three other east to west railways connect the ports with the interior.

Mineral ores and farm products are the main exports. Portugal depends heavily on Angola for minerals and farm products.

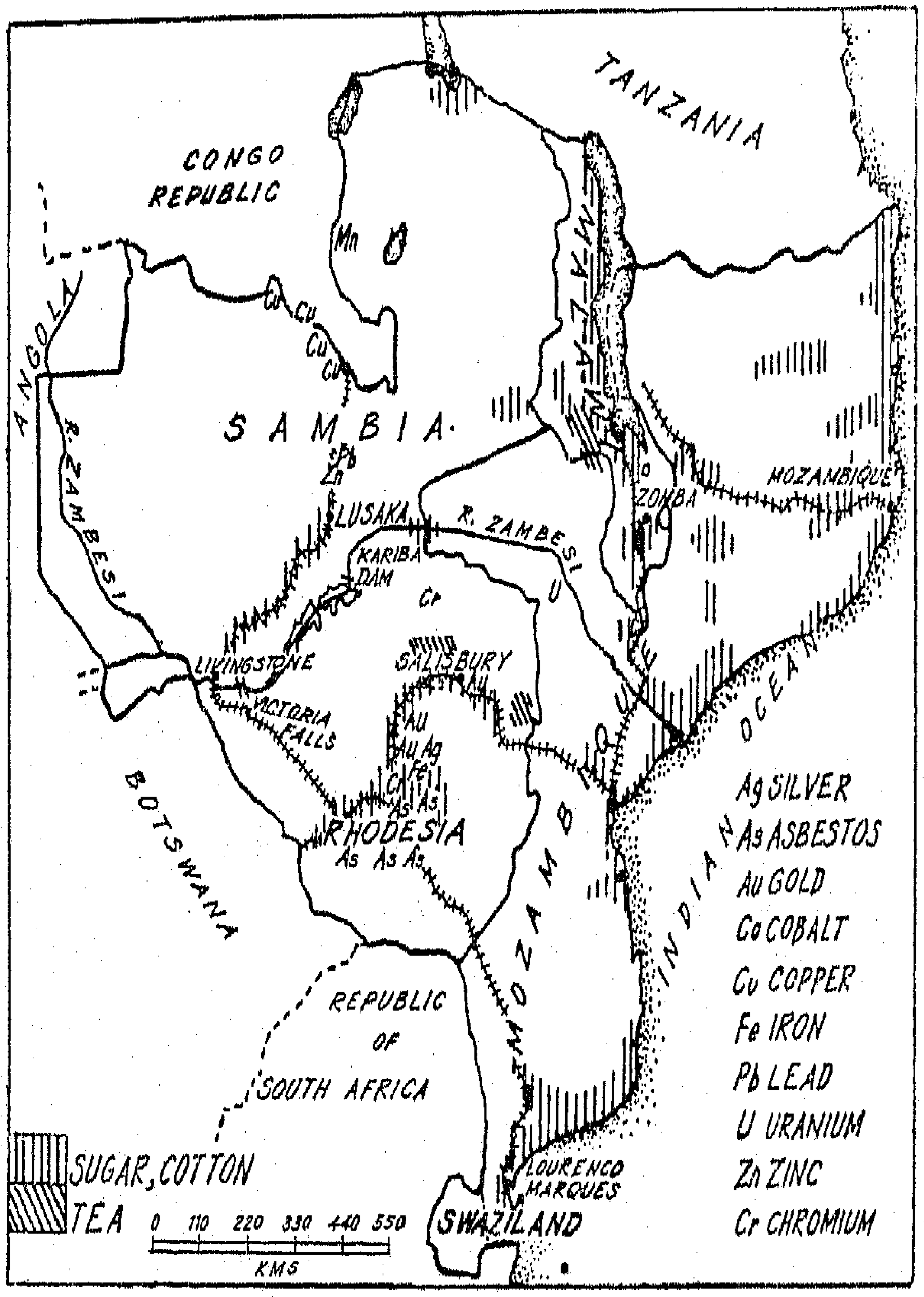
(v) Zambia

Formerly known as Northen Rhodesia after the great explorer *Cecil Rhodes*, Zambia consists of a high plain at an elevation of 1000 m. drained south by the *Zambesi* and its tributary, the *Kafue*, and an eastern upland region. *Lakes Mweru* and *Tanzania* are on its northern borders, while lake *Bangwelu* is in the eastern highlands.

The river *Zambesi* flows south through Zambia and then turns east to form a boundary between Zambia and Rhodesia. On this easterly course, it flows over the *Victoria falls* and then forms a lake is its course called the *Kariba lake*. The *Kariba dam* is constructed at the lower end of the lake. for power generation Because the Zambesi is the main river of the country, it is called Zambia.

Zambia has a tropical savanna climate; grassland is its natural vegetation. On the plains, maize, millet and sorghum are cultivated for food. Coffee and tobacco are cultivated in the north for export and shipped through lake Tanzania. Fishing is important in all the lakes.

As in Congo, mining is the main occupation. The Katanga copper belt extends south into Zambia. *Ndola Chingola, Chambishi* are the main copper mining centres. Zinc, lead and vanadium are mined at *Broken Hill.*



Map 54 : Zambia, Rhodesia, Mozambique and Malawi

Hydel power is generated at *Mulungushi*, below the Kariba dam, and at Livingstone at the foot of the Victoria falls. The Kafue is also being dammed to produce electricity. Barring mining, there are no industries at present.

About 5 million people live in Zambia. **Lusaka is** the capital. *Livingstone* is another large town.

The Elisabethville-Beira railway runs south through the copper belt, Broken Hill, Lusaka, and Livingstone before passing through Rhodesia. A new railway is being erected connecting Lusaka with Salisbury.

Copper and other minerals, coffee and tobacco are the exports.

(vi) Rhodesia

Formerly called Southern Rhodesia, Rhodesia is a plateau above 1000 m. The *Zambesi* and the *Limpopo* flow along its northern and southern limits. It has a tropical climate, with moderate summer rains. Though asbestos, chrome, coal and gold are mined in small quantities, farming is the main occupation in Rhodesia. Tobacco is grown largely for export; wheat, cotton and sugarcane are also grown. Dairy and meat cattle are kept in large numbers.

The Kariba dam supplies power for industries. The capital, **Salisbury**, has textiles, sewing machines and tyres as main industries. Cars are assembled at *Umtali.* Footwear, oil refining and meat canning are the other industries. *Bulawayo* has sugar refineries.

Nearly 4 million people live in Rhodesia. Most of them are africans Barely 3 lakhs of people are europeans. The White regime of Rhodesia, like that of the Union of South Africa, adopts apartheid policies.

Rhodesia is well served by railways. The main railway runs from Livingstone to Salisbury, Umtali and then onto Beira with a branch to Bulawayo.

The major item of export of Rhodesia is tobacco.

Exercises

1. Answer the following:
   - (a) Name the major exports of the different Central African countries.
   - ✓(b) What are the handicaps in using the Congo for transporting goods to the sea from the interior? How are these handicaps overcome? Refer page 125
   - (c) Compare the products of Zambia and Rhodesia.
   - ✓(d) How is the mineralwealth of Central Africa transhipped to the ports?
   - (e) Who are the people of Congo? Where do they live?
2. Give an account of the mineralwealth of Central Africa. Which country is the richest in minerals.?
3. Give reasons for the following:
   - (a) Zambia is so called.
   - (b) The coast of Angola is dry and cool.
   - ✓(c) Mahogany is the main export of Gabon.
   - (d) Farming is not much done in Equatorial Africa.
   - (e) The Congo discharges more water into the sea than the Nile.
   - ✓(f) Gabon has a large lumbering industry.

Project Work

1. *Describe a journey in the Congo from Lumumbashi to its mouth and a rail journey from Beira to Lumumbashi to Lobito. Briefly state the climate, vegetation, animals and products that you are likely to see in the journeys. What is the difference you observe between the two journeys?*
2. *Find out deiails of discovery of the Victoria falls by Livingstone.*

CHAPTER 17

SOUTH AFRICA

South Africa lies mainly in subtropical latitudes and covers the entire southern part of the continent. Most of the Britishers who have settled in Africa live here, because it has a mild enough climate for Europeans to live. About 25 million people live here.

The mineralwealth, particularly of gold, diamond and coal account for the prosperity of South Africa, that mines nearly fourfifths of the entire mineral output of the African continent.

South Africa includes the Union of South Africa, Southwest Africa, a United Nations protectorate under the control of Union of South Africa, Botswana (formerly called as Bechuanaland), Swaziland and Lesotho (formerly known as Basutoland).

(i) Union of South Africa

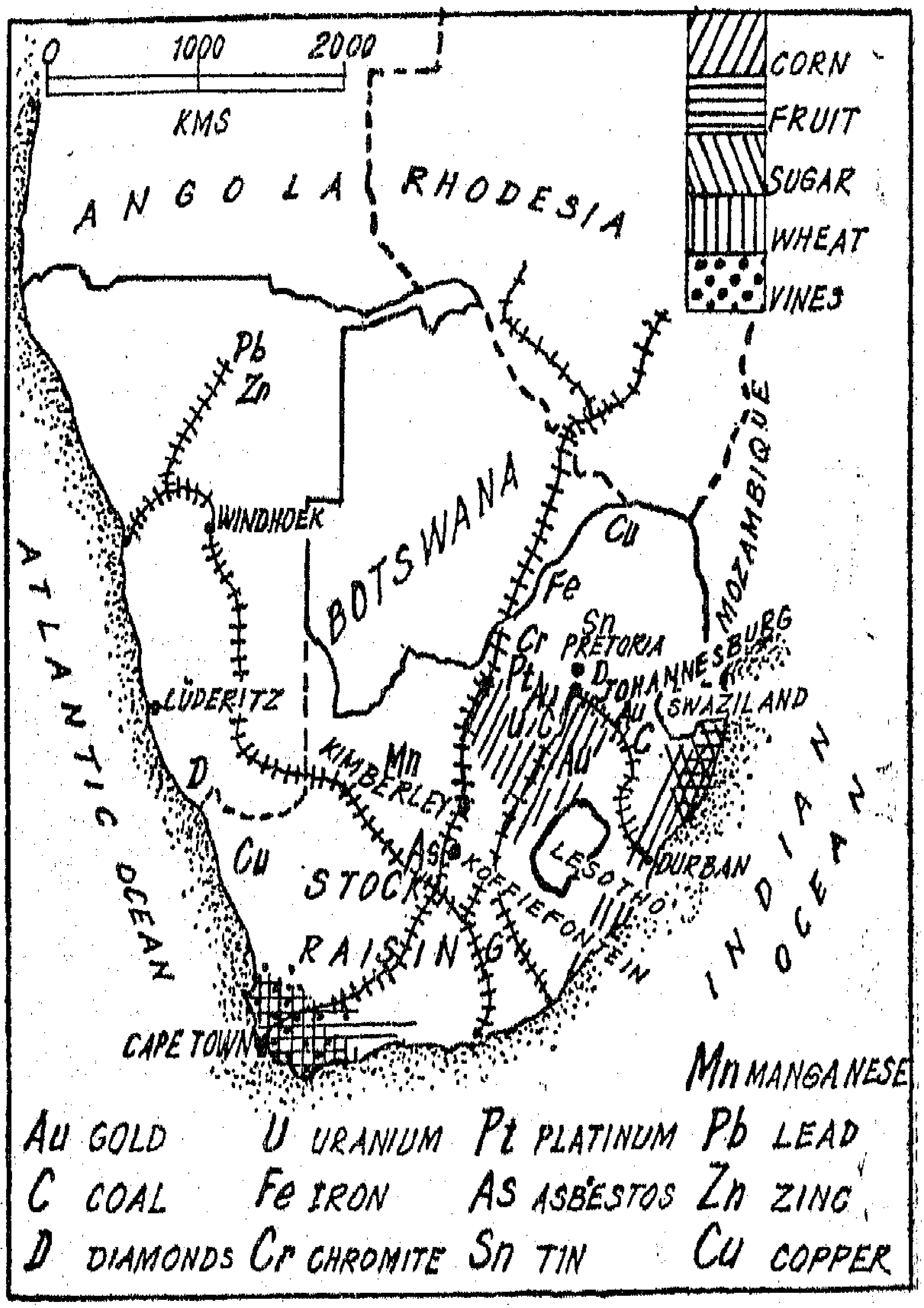
The Union of South Africa is an independent republic made up of four states: the *Cape Province*, *Natal*, *Transvaal* and the *Orange Free State.*

Physical Features : The *Cape ranges*, a number of parallel hill ranges, run west to east parallel to the south coast. There is a narrow coastal belt in the south, while behind the Cape range is a belt which rises in steps. The first step behind the range, closest to the coast is called the *Little Karroo.* It is about 25 kms. wide and 500 m. high. Behind the next range is the *Great Karroo* between 500 m. and 1000 m. Still further in the interior is the *High Veld*, at heights between 1500 and 2000 m. Towards the west of this Veld plateau is the *Upper Karroo*, a sandy waste leading to the *Kalahari*. The eastern edge of the Veld plateau forms steep slopes known as the *Drakensberg mountain.*

This plateau rim rises in places to nearly 3500 m. To the east of the Drakensberg is a fairly wide coastland, belonging to Natal.

The *Limpopo* river runs east, forming the northern boundary of the Union. The *Orange* and its tributary, the *Vaal* flow west. They dry up during the dry weather.

The whole country has warm summers and mild winters. It rains in winter in the south coast due to the west winds, but the east coast receives good amount of summer rains. The Drakensberg receives heavy rains,



Map 55 : Union of South Africa and Southwest Africa

but the plateau in the rainshadow is dry. Rain decreases westwards in the plateau, leading to the desert type in S. W. Africa.

Subtropical forests are found mainly in the Cape ranges near the coast and the Drakensberg mountains.

South Africa is the largest fishing nation of Africa. The *pilchards* are the fish mostly caught.

South Africa is very rich in minerals. It is the mineralwealth that attracted European colonisation. South Africa accounts for nearly twothirds of the world production of gold. The gold is mined in what is known as the *Witwatersrand* range or the *Rand*. There are two main producing areas : southern Transvaal, around *Johannesberg*, *Kinross*, *Leslie*, *Carletonville*, *Klerksdrop* and *Potchefstroom;* and Orange Free State around *Allanridge*, *Virginia*, *Welkom* and others. Uranium is also obtained in large quantities in the gold mines.

Diamond is mined around *Kimberley*, *Pretoria*, *Koffiefontein* and *Jagersfontein*.It is also got in the *Namaqua* coast. The Kimberley mines are now exhausted. Good grade coal is mined in the Natal coast around *Dundee* and *Vryheid;* poorer coal is mined in Transvaal and Orange Free State. Iron ore is mined in the Limpopo valley of Transvaal and north Natal. Copper, phosphates, nickel, platinum, chromium, manganese and asbestos are the other minerals mined in smaller quantities.

South Africa is also a prosperous farming country. Maize and Kaffir corn are the main crops of the High Veld. Wheat grows mainly on the south coast. Sugarcane in the Natal coast, tobacco in Transvaal, cotton and groundnuts in the Orange river valley, grapes in the Little Karroo and Cape lowlands, citrus and banana in Natal coast are the other chief crops.

Merino sheep and angora goats are reared for wool on the plateau. In the upper Karroo, *karakul* sheep are kept. Cattle are also kept in Natal and Cape coast.

The Union of South Africa is the most advanced african country industrially. Most industries are concentrated in south Transvaal around *Johannesberg*, the biggest town. Mining and metal industries form the main group in this region. Around *Cape Town*, the industries found are textiles, canning, distilling, leather and shipbuilding. Car assembly, canning and footwear are found around *Port Elizabeth*. Chemicals, wood-pulp, paint, hardware, and jewellery are found near *Durban*. Steel is produced at *Pretoria* and *Vanderbijlpark*, Engineering works are found at *Bloemfontein*.

The Union of South Africa has 19 million people, out of whom 3½ millions are Europeans and the rest, the *Bantus*. Asians, mainly from India, work in the Natal Plantations or engage in retail trade.

Pretoria in Transvaal is the capital. *Cape Town*, *Johannesberg*, *Bloemfontein*, *Durban* and *Port Elizabeth* are the other large towns. Cape town and Durban are large ports of call on the 'Cape route'. Port Elizabeth handles trade passing to Rhodesia.

S. Africa is very well served by railways, roads and airways. All the major towns are interlinked by airways.

The main exports of S. Africa are gold, diamonds and other minerals, wool, mutton and farm products.

(ii) Swaziland

Swaziland is a small country enclosed within the Union of South Africa. It is mostly Veld, sloping east. Sheep and cattle rearing is the main occupation. Maize, rice, sugarcane, citrus, banana and pineapple are being grown increasingly under irrigation. Asbestos is mined at *Havelock*. Sugar and fruit canning factories are the main industries. Wattle bark is an important export product.

About half a million people live here. They are tribes similar to the zulus who live in the nearby Mosambique. *Mbabane* is the capital.

(iii) Lesotho (Basutoland)

Lesotho or Basutoland also lies enclosed within the Union of South Africa. To its east is the Drakensberg mountain. It is a plateau, densely peopled by a million native people. Livestock rearing is the main occupation; wool and mohair are the main exports. Wheat and maize are grown. Most people move to the Rand to work as mine labour. *Maseru* is the capital.

(iv) Botswana (Bechuanaland)

Botswana lies north of the Union of South Africa. Botswana is a part of the Kalahari desert, with scrub vegetation. Most of the people live in the better-watered east and south. Livestock rearing is their main occupation, though maize, millets and citrus are grown to some extent. Gold, kyanite and coal are mined in small quantities.

Gaberones is the capital. It lies on a railway running north to south from Bulawayo in Rhodesia to Cape Town.

(v) Southwest Africa

Southwest Africa, a protectorate of the Union of South Africa, is a 3000 m. high plateau descending through steep slopes to a semiarid coastal plain. The plateau forms part of the Kalahari desert. Stock raising, especially of the karakul sheep, is the main occupation, though millets, maize and groundnuts are grown along stream courses and in coastal areas. Fishing provides living to many people along the coast. There are seven fish canning factories along the coast.

Mining has attracted settlements to S. W. Africa. Diamonds are obtained along the coast around *Luderitz* and further north. The desert interior has sulphide ore, tin, copper, lead and zinc that are all worked at present.

About a million people live in this region. Most of them are *bantus*. The *bushmen* who are herders live in the east. In the waterless, harsh deserts live the primitive group of *hottentots*.

Windhoek in the plateau is the capital. *Luderitz* and *Swakopmund* are ports.

Railways serve the mineral districts and connect them with the ports as well as the towns of the Union of South Africa.

Exercises

1. Divide the Union of South Africa into physical divisions.
2. Write short accounts of the following :
   (a) Agriculture in the Union of South Africa;
   (b) Wealth of S. W. Africa.
3. How do you explain the prosperity of the Union of S. Africa ?
4. Name one centre of production for each of the following from S. Africa :
   Steel, chemicals, fruit canning, engineering, diamond mining.
5. Give a concise account of the mineralwealth of S Africa.
6. Explain the location and importance of the following places:
   Johannesberg, Durban, Port Elizabeth, Mbabane, Bloemfontein.

Project Work

1. *Enumerate all the minerals products in Africa, countrywise. Make a table if necessary. From your survey of the table, state in which minerals african nations are poor and in which extremely rich. For each mineral mined in plenty, name the largest african producer.*
2. *Plan a tour of South Africa, mentioning the place and item of interest.*
3. *Collect information on the life of the Hottentots, Bushmen and Zulus.*

REVISION EXERCISES—III

1. Give reasons for the following :
   (a) Livestock rearing is not that important in East and Central Africa as in West Africa or Sudan.
   (b) Africa is rich in wild life.
   (c) Though Africa is rich in minerals and waterpower, many industries have not developed.
   (d) Farm products and minerals are the main exports of most African nations.
2. State the new names of the following African countries : Gold coast, Nyasaland, Northern Rhodesia, Abyssinia, Tanganyika. State their capitals.
3. Enumerate all those countries of Africa that lie inland and do not have a seacoast. How do they export their products ?
4. Name those countries of Africa having a savana type of climate. Which of them have livestock rearing as the main occupation and which have developed farming ? What are the major farm products of these countries ?
5. Name at least one african country for each of the following climatic types. State its natural products.
   (a) Desert type; (b) Rainforest type; (c) Savanna type; (d) Mediterranean type.
6. On a map of Africa, broadly mark out the regions occupied by different African people.
7. Compare the Nile valley with the Zambesi valley as regards their climate, mineralwealth and products.
8. Mention the countries of Africa lying in the African Rift Valley. State the lakes that lie in the rift valley, and the peaks that adjoin the rift valley.
9. State which countries the following ports belong to. State also whether they serve any other African country. Mention the products that pass through them.
   Alexandria; Port Elizabeth; Dar es Salaam; Mombasa; Beira; Lobito; Accra; Dakar.
10. Compare the mineralwealth of Africa with that of South America.

11. Which agricultural products of Africa are also cultivated in South America ? Why are they common ? Which crops grow only in South America or only in Africa ?

12. Take any one country of Africa and one country of South America that lie in the same latitude and on the same coast. Compare their climates and products.

SECTION IV

OCEANIA

In this section, you shall learn about the southern continent of Australia and nearby islands that were last discovered, explored and settled. Oceania consists of the island continent of Australia, New Zealand and many groups of small islands in the Pacific. Separated from the rest of the continents over millions of years, Australia and New Zealand are the lands with strange animals, running birds and plant varieties not known to other continents. Let us see in the lessons that follow how the Europeans have settled in these areas and developed them.

CHAPTER 18

AUSTRALIA – THE LAND

(i) Exploration

The old Chinese and other Asian sailors for long believed that there was an unknown land in the South. Many attempts were made by Portuguese and Spaniards to find these lands. It was in 1642 that a Dutch Captain *Tasman* reached the small island of Tasmania, that is named after the discoverer. He also discovered New Zealand Forty years later, an English sailor, *Dampier*, sailed along the northwest coast of Australia. Seventy years still later, Captain *James Cook* explored and mapped New Zealand and the east coast of Australia. *Bass* and *Flinders* also investigated the other parts of Australia. *Eyre*, *Giles*, *Mitchell* and *Gregory* explored the interior of Australia.

Till the begining of the 19th century, the British used Australia as a colony for life prisoners. The chance discovery of gold in the southeastern parts of Australia brought an onrush of gold-seekers form Britain. Soon, Australia became a colony within the British Commonwealth.

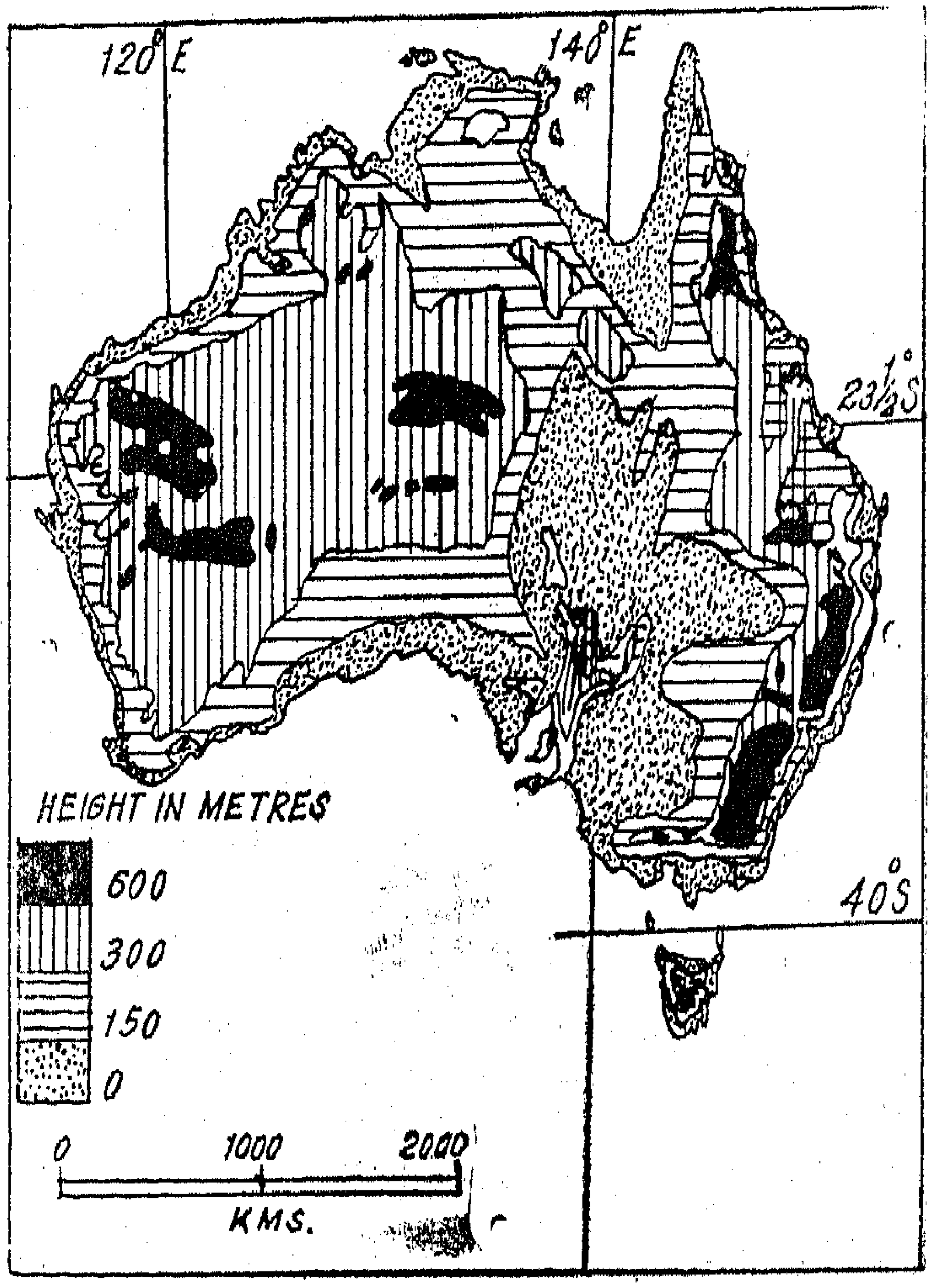
(ii) Location

Australia is the smallest continent of the world. It lies entirely in the southern hemisphere. It is an island continent lying between the Indian and Pacific oceans. Its total area is 7·7 million sq. kms.

The Tropic of Capricorn runs through the middle of the continent. Australia lies between 11°S. and 39°S. latitudes and between 113°E. and 153°E. longitudes. To the south of Australia, lies the small island of Tasmania that belongs to Australia.

(iii) Relief and Coastline

Australia has a compact shape. Its coasts are fairly regular and straight. There are very few breaks and inlets in the coast; therefore, there are very few good harbours. The Gulf of Carpentria in the north and the Spencer's Gulf in the south are the only large breaks in the coast.

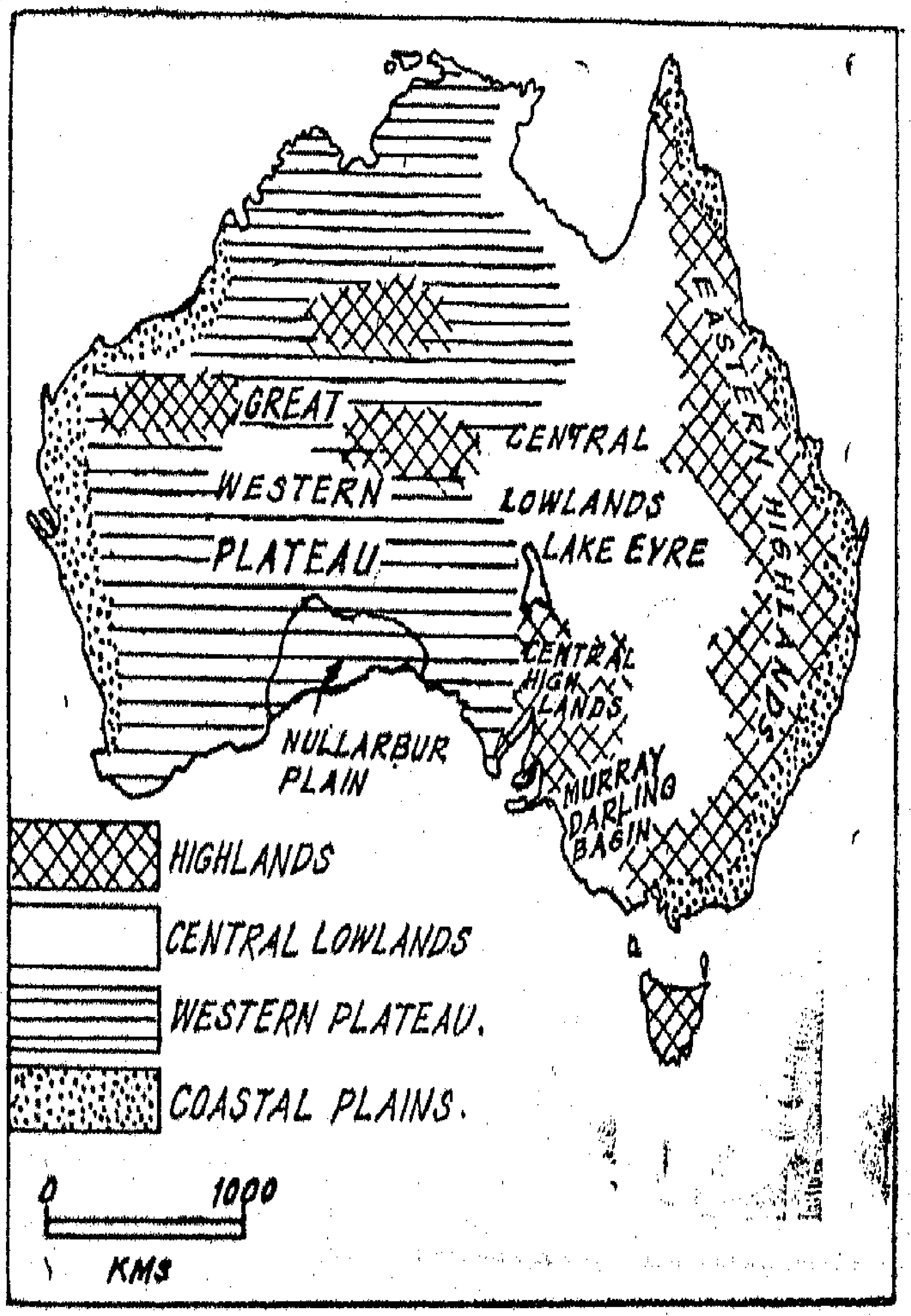


Map 56 : Relief of Australia

Close and parallel to the east coast of Australia, there runs a mountain range called the *Great Dividing Range;* it is also known as the *Australian Alps* in the southern parts. These highlands have an average height of 2000 metres. The highest peak, *Mt. Kosciousko,* is barely 2500 m. high. Even this peak is not covered by snow all the year.

The western two-thirds of Australia is a vast plateau composed of ancient rocks. Small hill ranges, such as the *Kimberleys,* the *Macdonald range* and the *Musgrave range* rise above the plateau level. In most parts, the plateau is covered by huge sandsheets.

Lying between the western plateau and the eastern highlands are vast lowlands in the interior. They are the *Murray-Darling* lowlands in the south, the *Eyre basin* in the middle and the Gulf of Carpentria lowlands in the north. To the west of the Murray-Darling lowlands is a hill range adjoining the Spencer's Gulf. It is called the *Flinder's range.*To the south of the western plateau lies the *Nullarbor plains.*



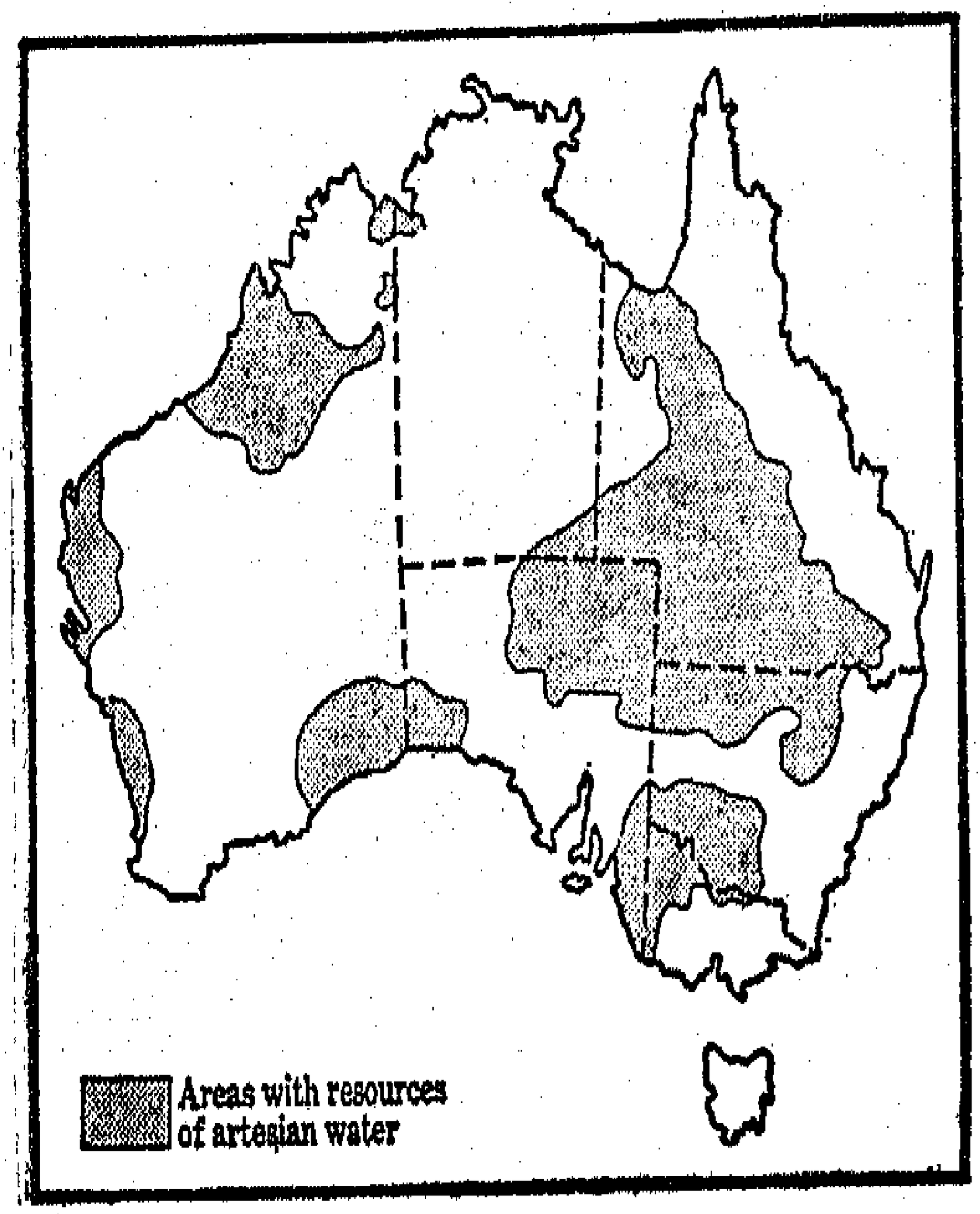
Map 57 : Physical divisions of Australia

To the east of the eastern highland, there is a narrow coastal lowland. Along the northeast of Australia, just offshore, there runs a low submarine ridge called the *Great Barrier Reef*. It is more than 1500 kms. long.

The island of *Tasmania* has central highlands surrounded by coastal plains.

(iv) Drainage

Australia has a few large rivers. The largest river system is called the Murray-Darling system. The *Murray* and the *Darling* rivers rise in the southern parts of the eastern highlands and flow west to join the Spencer's Gulf. They collect the winter rains and snowfall in the hills. The *Lachlan* and the *Murrumbidgee* are the main tributaries of this river system. These rivers practically dry up during the summer and have little flow in them. During winter, they are flooded. Therefore, they are not useful as inland water ways.



Map 58 : Artesian basins in Australia.

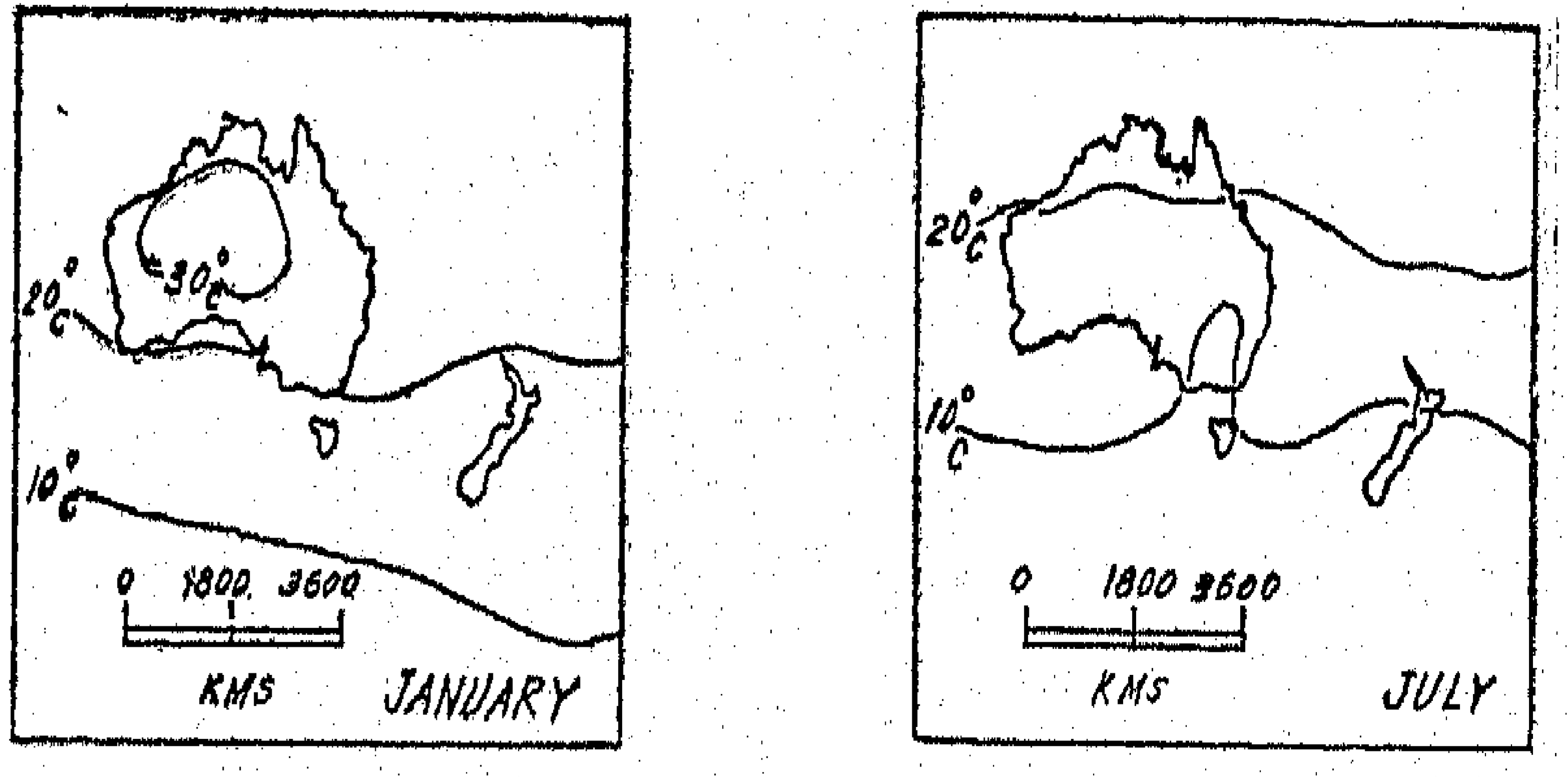
A large number of short, swift streams drain the rainy eastern slopes of the Great Dividing Range and join the Pacific. They are mainly rain-torrents having rapids in their courses. The *Fitzroy*, the *Hunter* and the *Snowy* rivers are the most important of them.

There is a large salt lake in the central lowlands called lake *Eyre*. Many rivers like *Diamantina* river and *Cooper's creek* in the central lowlands empty into it. Therefore, the lake Eyre area is an *inland basin.*

The central lowlands has numerous natural wells or *artesian springs.* When a deep borewell is sunk into the ground, the ground-water stored inside the Earth by Nature, rushes to the surface with great force. Some of these artesian wells are very deep—more than 1000 metres. The water is generally saltish. Besides the central lowlands, the western and southern coastal areas also have artesian wells. These artesian wells are a blessing to these otherwise dry regions.

(v) Climate

Australia, as a whole is a hot, dry continent. In December, when it is summer in the southern hemsiphere, the whole of Australia has temperatures above 18°C. Temperatures increase from south to north. Only Tasmania remains mild. In the interior of the western plateau, it is very hot. During July, when it is winter, temperatures are lower. North Australia is warm and south Australia is mild.

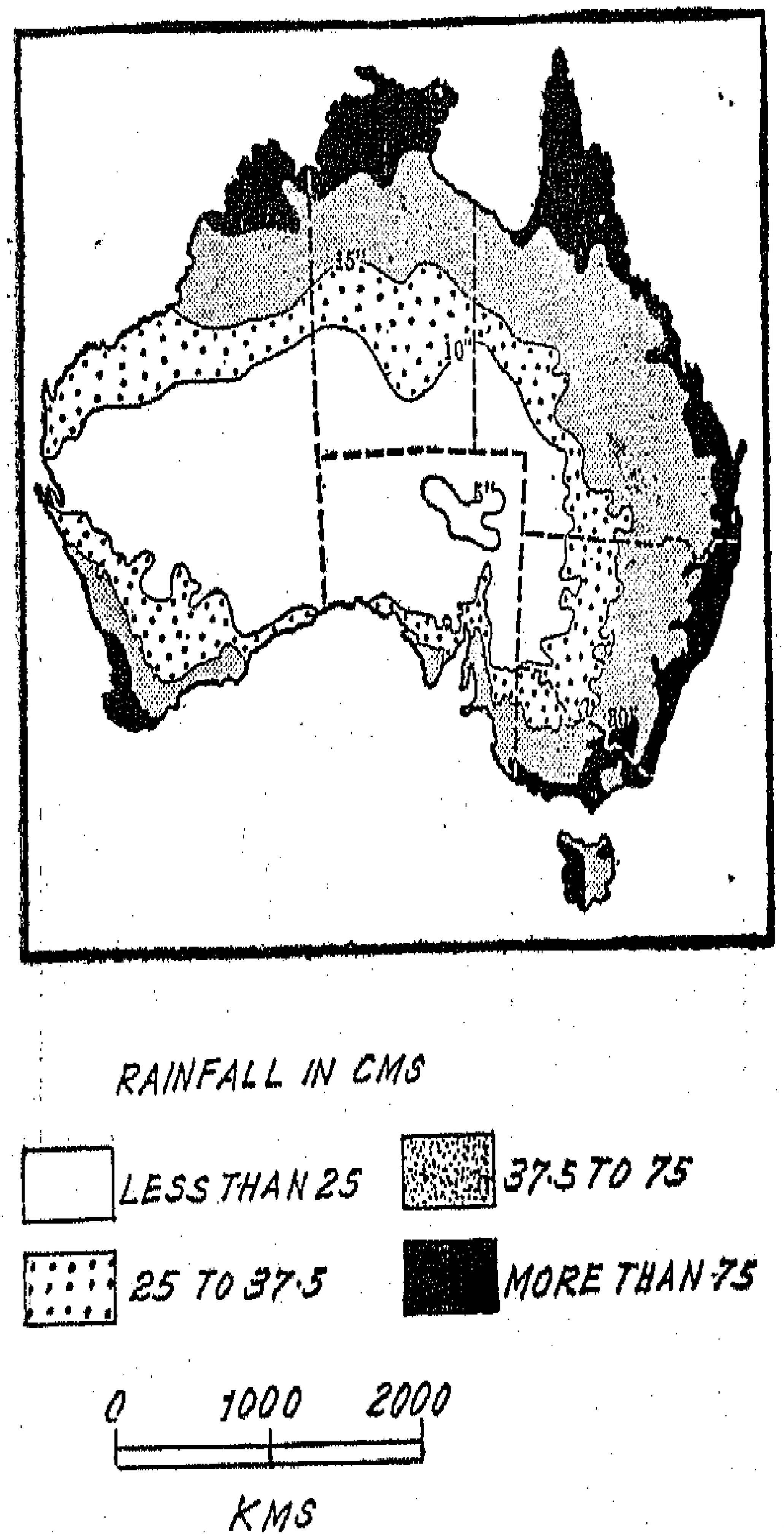


Map 59 : Australia—January and July Temperatures.

Rainfall mainly, comes from the east through the trade winds. The eastern coastal lowlands and the hill slopes receive moderate to heavy rains during summer. The northern tips of Australia receive heavy rainfall in summer—more than 250 cms.—due to monsoon winds. Southwest and southeast Australia receive light to moderate rains in winter due to west winds. To the west of the Great Dividing Range, rainfall decreases westwards, so that the central lowlands and western plateaus are dry desert and semidesert.

Tasmania receives heavy rains all through the year due to west winds.

From the above description, it is clear that Australia can be divided into the following climatic regions :



Map 60 : Australia-Annual Rainfall

(1) North Australia with tropical monsoon climate.

(2) East coast of Australia with a tropical wet climate.

(3) Southeast Australia with a temperate climate.

(4) South and southwest coasts of Australia that have a 'Mediterranean' type of climate.

(5) The western plateau and central lowlands with a hot desert climate.

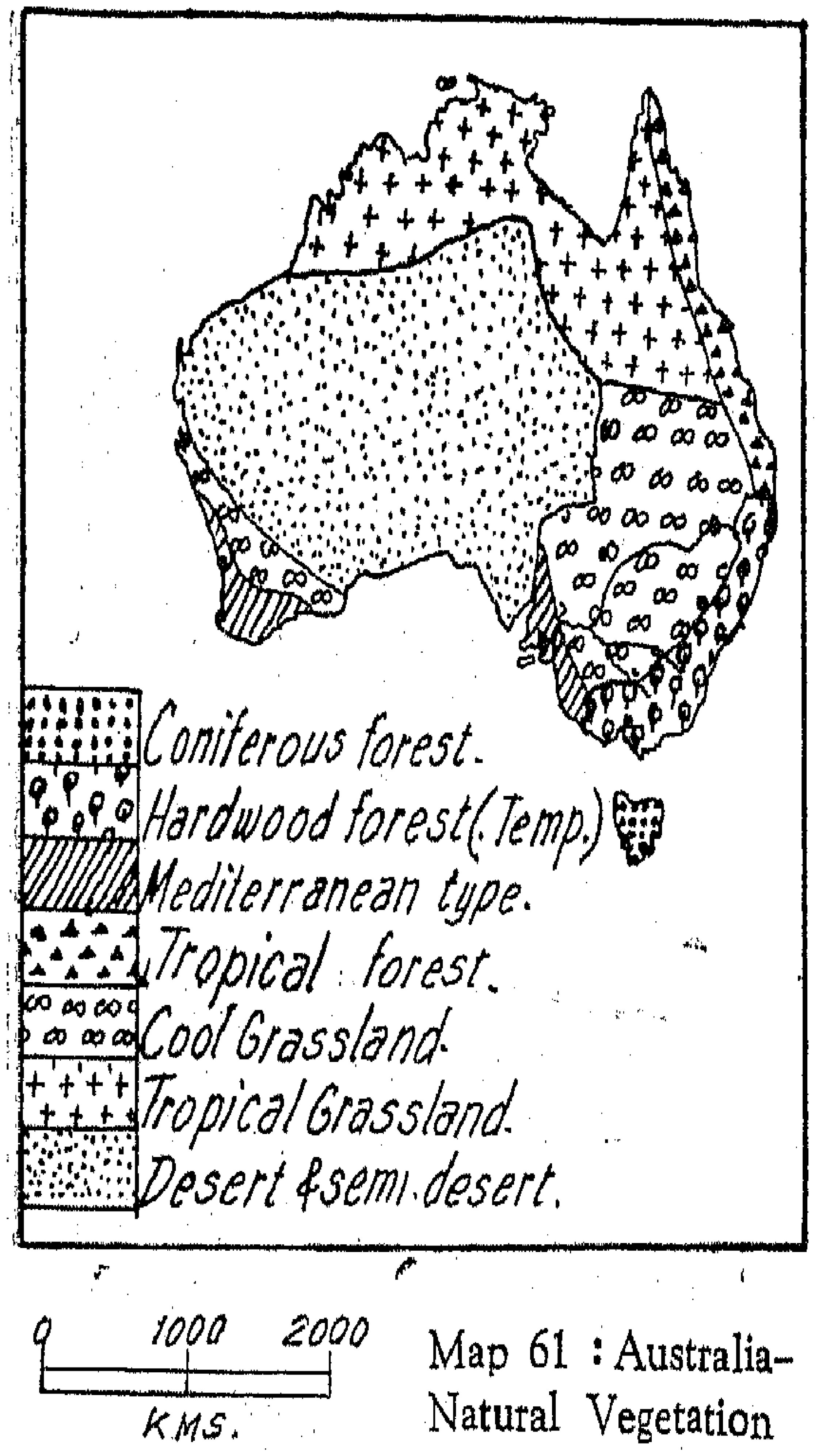
(6) Tasmania, with a temperate coastal climate.

(vi) Natural Vegetation

The eastern and southeastern highlands of Australia have subtropical and temperate forests in which the *eucalyptus* dominates. The north coast has tropical monsoon forests while the southwest and southern coasts have *jarrah* forests.

The hills of Tasmania are covered with temperate softwood forests.

The Murray-Darling lowlands and the Downs to the west of the eastern highlands in New South Wales and Queensland are covered with grasslands. The western plateau and the Eyre basin have salt-bushes and scrub vegetation. On the whole, Australia has a limited forest-cover, mainly in the north and east coasts.



Map 61 : Australia-Natural Vegetation

Fig 13 : A Eucalyptus forest in S. Australia

(vii) Animals

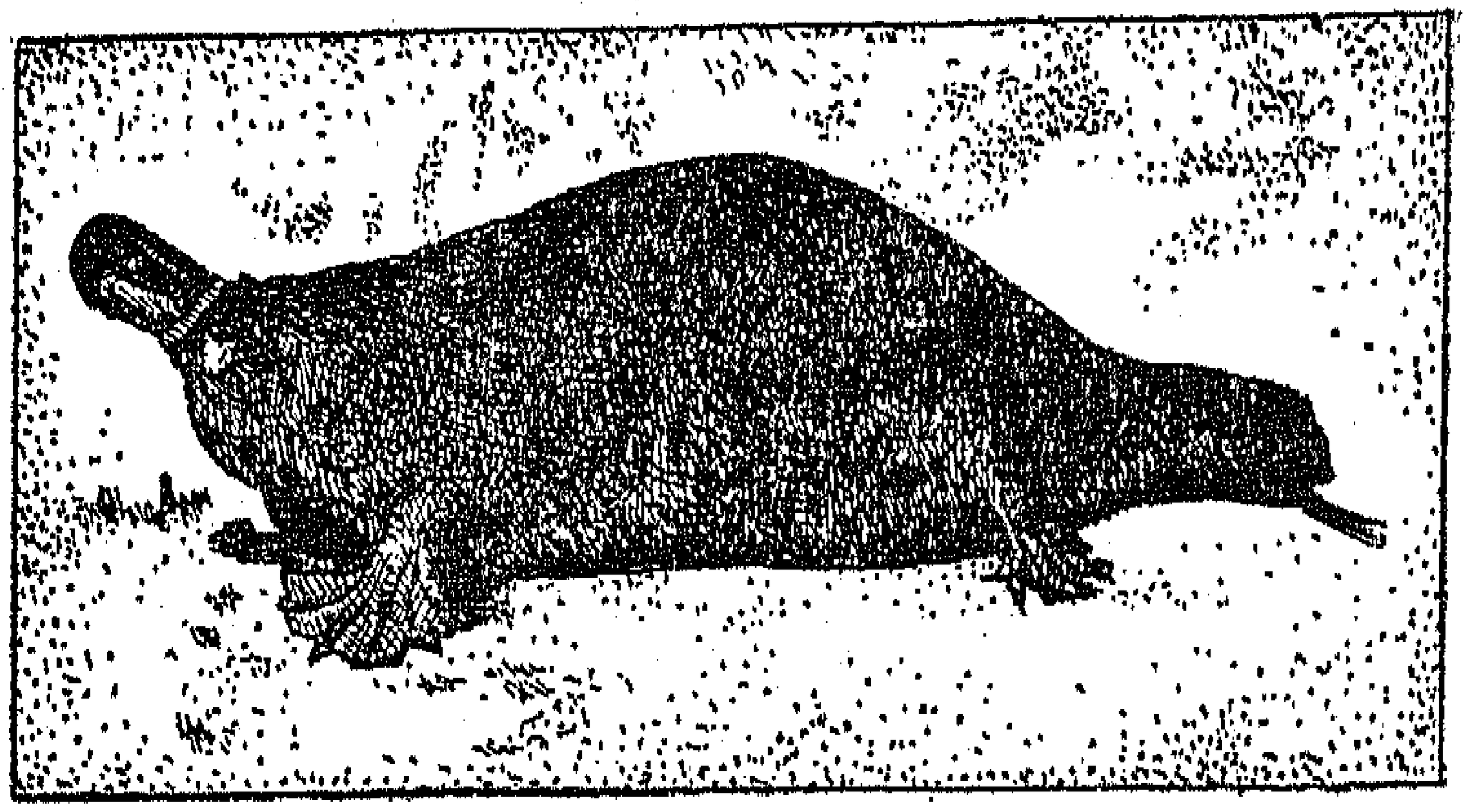


Fig 14 : Platypus, Australia

Australia is a continent with strange animals and birds. Before the Europeans settled in Australia, the *kangraoo*, a jumping animal carrying its little ones in a pouch, used to roam about freely in the grasslands. The duck-billed *platypus*, the *sloth*, the anteater and the wild *dingo* are some of the strange animals of the australian jungle. In the drier west, running birds like the *emu* and the *cassowari* are found The singing *lyrebird* and the *black swan* are also birds of Australia.

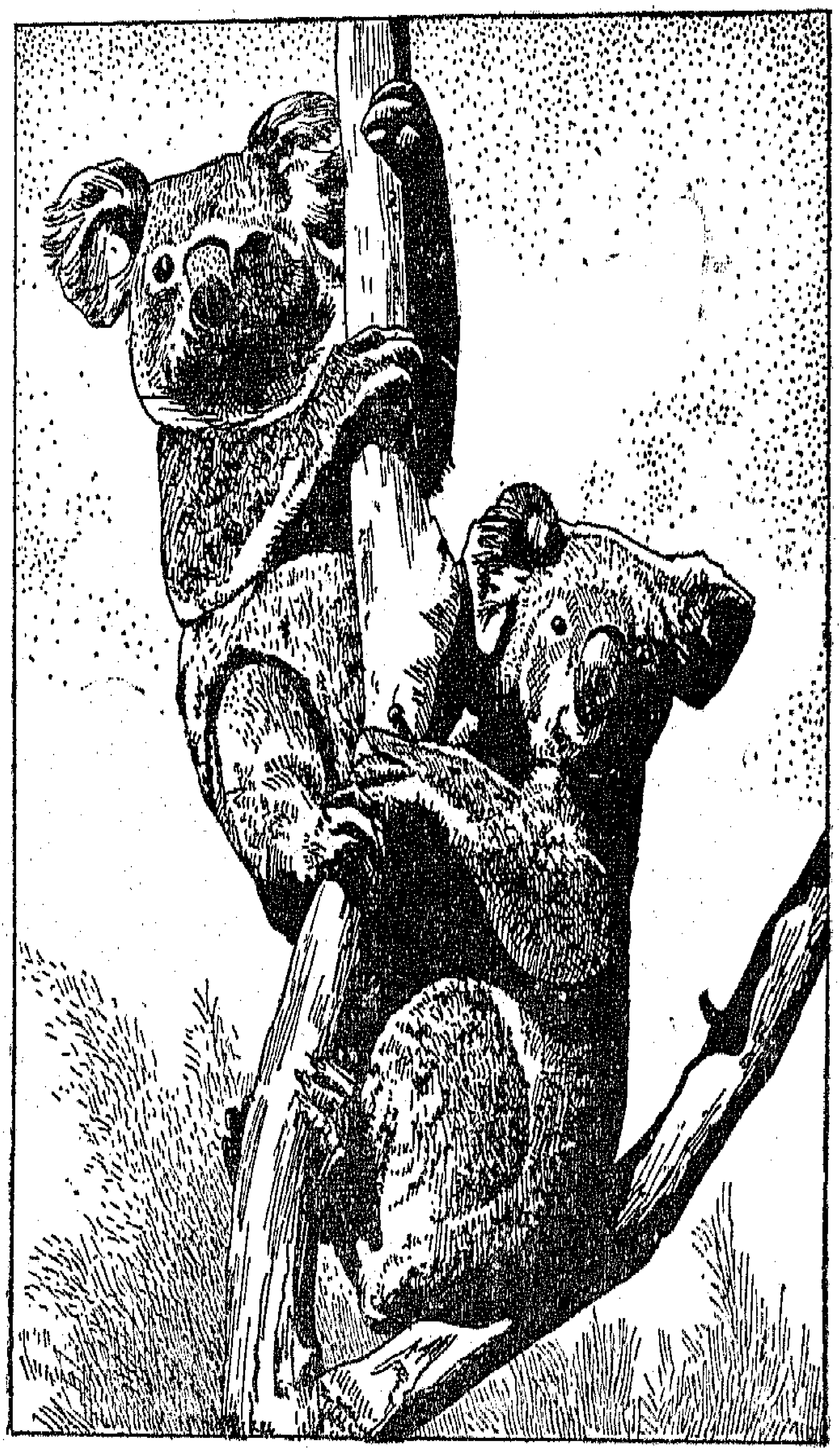


Fig. 15 : Kaolas on a gum-tree

The europeans introduced many new animals to Australia and have destroyed many native animals. Cattle, sheep and rabbits were introduced by the europeans. Today, Australia is a sheep-country with more than 150 millions of sheep, the largest sheep population for any country in the world. Rabbits have multiplied so much in number in Australia that they are at present a nuisance to the australian farmer.

Exercises

1. Answer the following :
   - (a) State the major physical divisions of Australia.
   - (b) Why is Eyre basin called an inland basin ?
   - (c) Why is Australia a hot dry continent ?
   - (d) State the main forest areas of Australia.
   - (e) Why is Tasmania so called ?
2. Give short accounts of the following :
   (i) The native animals and birds of Australia; (ii) The Murray-Darling river system; (iii) Exploration of Australia.
3. Fill in the blanks :
   - (i) The tributaries of the Murry river are ——, —— and——.
   - (ii) ——is the highest peak of the eastern highlands.
   - (iii) The southwest coast of Australia has a —— type of climate, while the northern coast of Australia has a ——type of climate.

Project Work

1. *Draw a map of the world and show in it Australia, Tasmania and New Zealand.*

   Find the distance from Bombay and London to Sydney and Darwin in Australia and Wellington in New Zealand.
2. *Collect pictures and details of information about the animals and birds of Australia.*
3. *Learn from your teacher about the great explorers and disoverers of Australia and their expeditions.*

CHATER 19

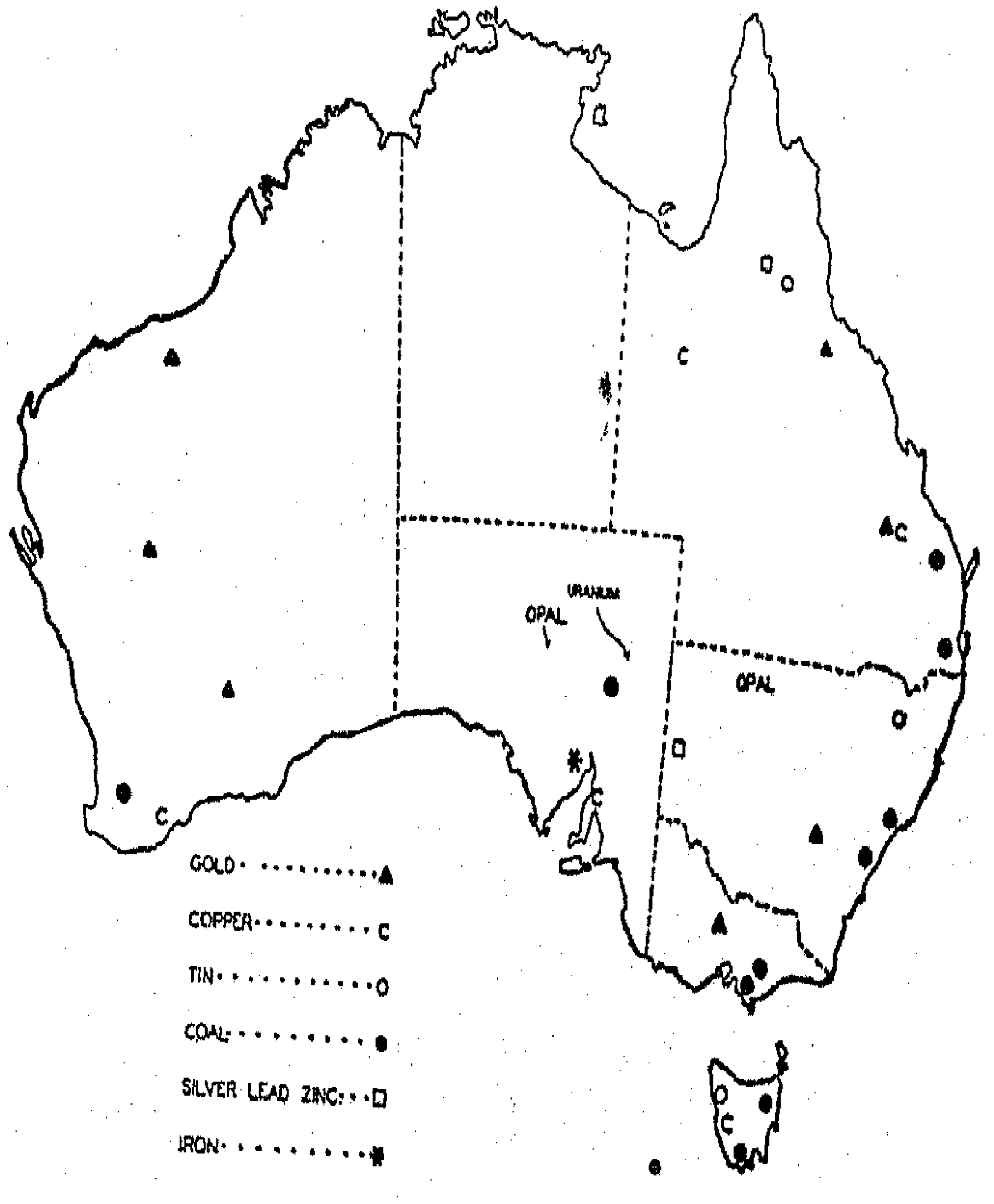
AUSTRALIA—RESOURCES AND PEOPLE

(i) Political Divisions

Australia is a colony and dominion of the British Commonwealth. It is divided into seven states for purposes of administration : *Western Australia*, *Northern territory*, *South Australia*, *Queensland*, *New South Wales*, *Victoria* and *Tasmania*. **Canberra**, in New South Wales, is the federal capital.

(ii) Minerals

Australia is fairly rich in minerals. It was the discovery of gold in Victoria, that changed Australia from a convict settlement into a colony. Gold is mined in a number of places in the Murray valley of Victoria such as *Ararat*, *Ballarat*, *Bendigo* and *Eureka*. Gold is also mined at *Coolgardie*, *Kalgoorlie*, and *Yampi Sound* in the West Australian desert and *Charles Tower* in Queensland.



Map 62 Australia-Mineral wealth

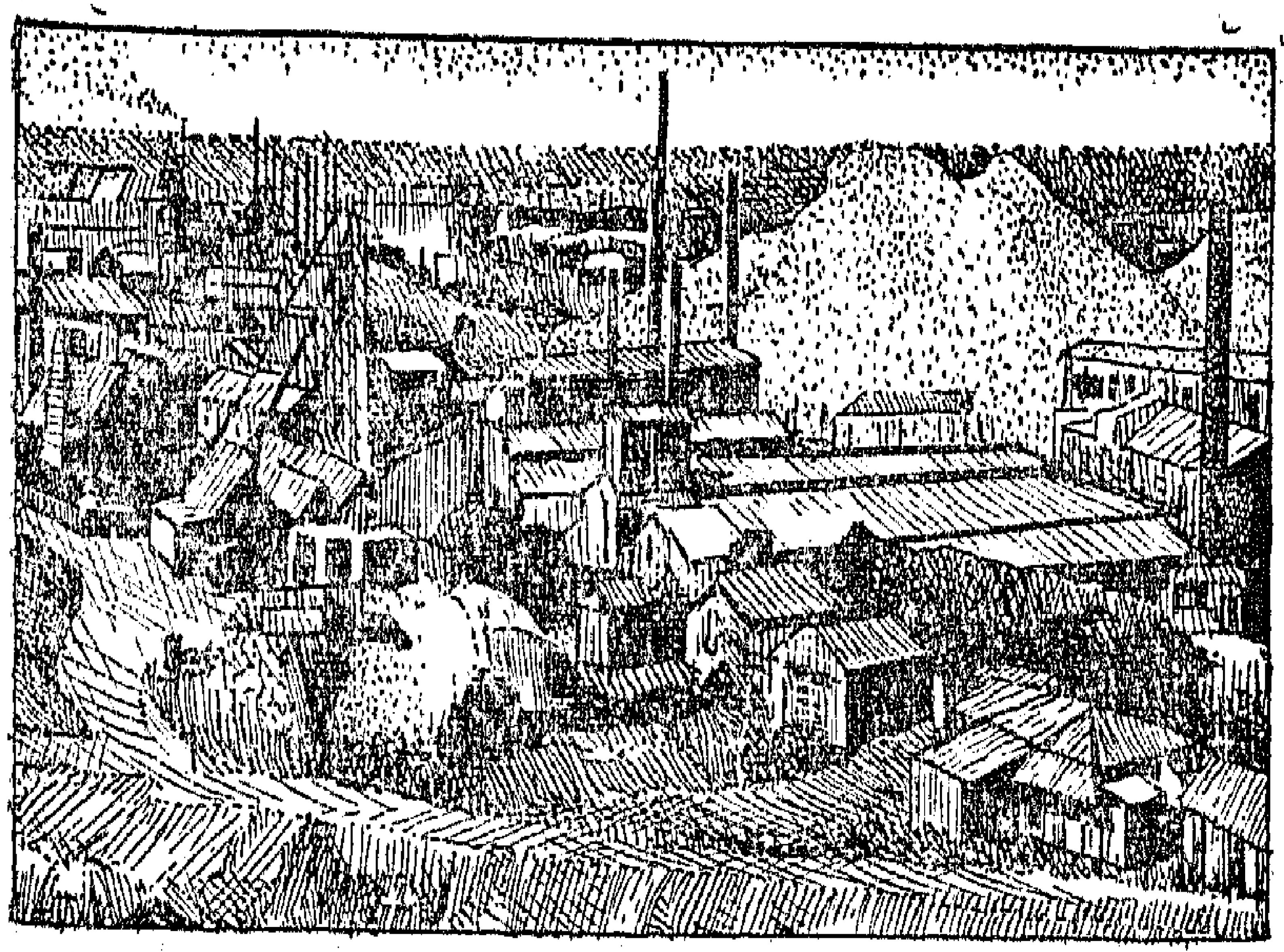


Fig 16. The Broken Hill Mining District

Copper is mined near *Albany* in West Australia near *Adelaide* in South Australia, in Mt. *Lyell* in western Tasmania and in Mt. *Morgan* in Queensland. Silver, lead and zinc are mined at *Broken Hill* in South Australia and near *Charles Tower* in Queensland. Iron ore is mined near *Iron knob* in South Australia. Coal is mined at *Newcastle* in the Hunter valley in New South Wales, and in small fields in west and south Australia, Tasmania, Victoria and Queensland.

Australia is the largest producer of opal in the world. It comes from South Austrlia and New South Wales. Tin is mined in Tasmania and in coastal New South Wales. Pearls are obtained from the northern tropical seas. Thus, Australia is rich in metallic minerals but rather poor in coal and iron.

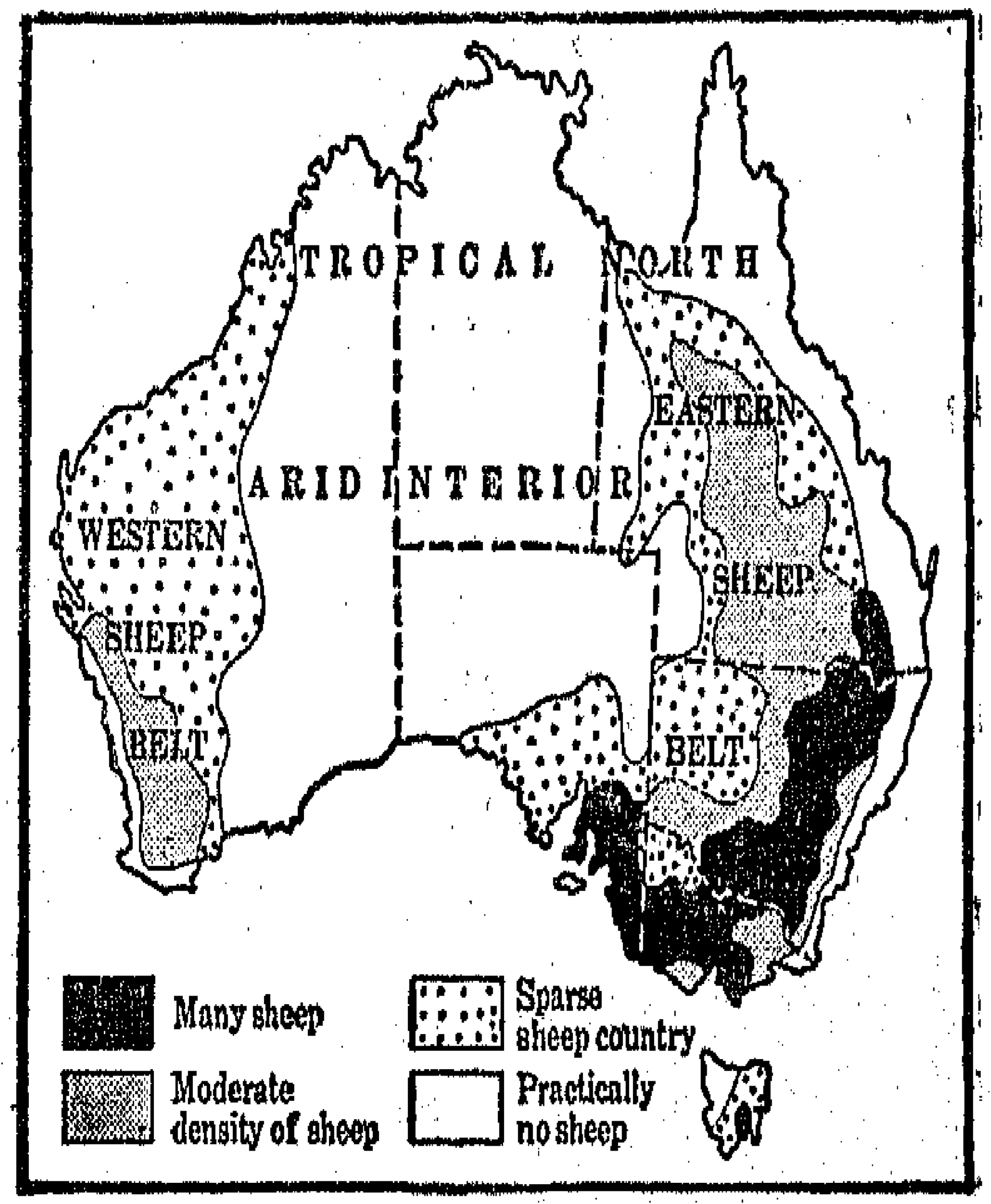
(iii) Water Resources

Australia is a dry continent. Therefore, not much hydro-electric power is generated. Hydro-electric power is generated from the Murray and Murrumbidgee rivers in Victoria.

Irrigation is also developed mainly in the Murray-Darling river basin. The *Hume Dam* on the Murray and the *Burrinjick dam* on the Murrumbidgee are the largest. In the small river valleys of coastal Queensland also, irrigation is developed to a limited extent.

(iv) Livestock

Livestock is the real wealth of Australia. When the initial gold rush was over, people settled in Australia and took to livestock farming. Most of the central lowlands of Australia and western coastal regions have short grass growth, ideally suited for sheep. Sheep were brought to Australia from Britain and Spain. Today, Australia has the largest sheep population in the world-more than 150 million sheep.

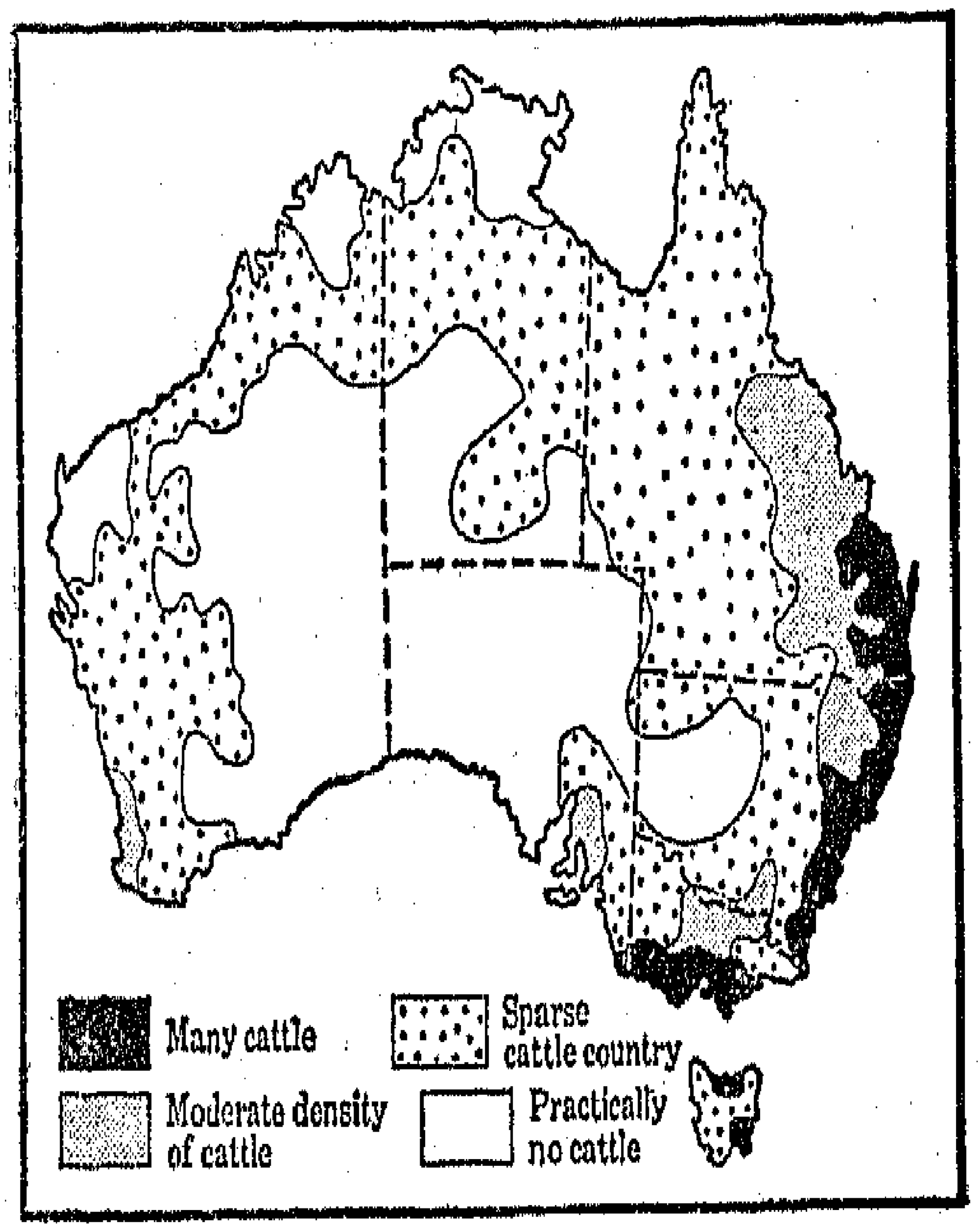


Map 63 : Australia–Sheep distribution

The main sheep country lies in the Murray-Darling basin and the Queensland Downs that have a

rainfall between 25 to 60 cms. The sheep are kept for both mutton and wool, but wool sheep are more important than mutton sheep in Australia. Australia is the largest wool producer in the world. Raw wool is exported in large quantities to Britain. Mutton is frozen and sent by ships to Western Europe.

Cattle are kept in the moist, eastern slopes and lowlands of Queensland and New South Wales. Beef cattle are kept mainly in Queensland. *Brisbane*, *Charles Tower* and *Townsville* are important beef markets. Victoria has a large stock of dairy cattle.

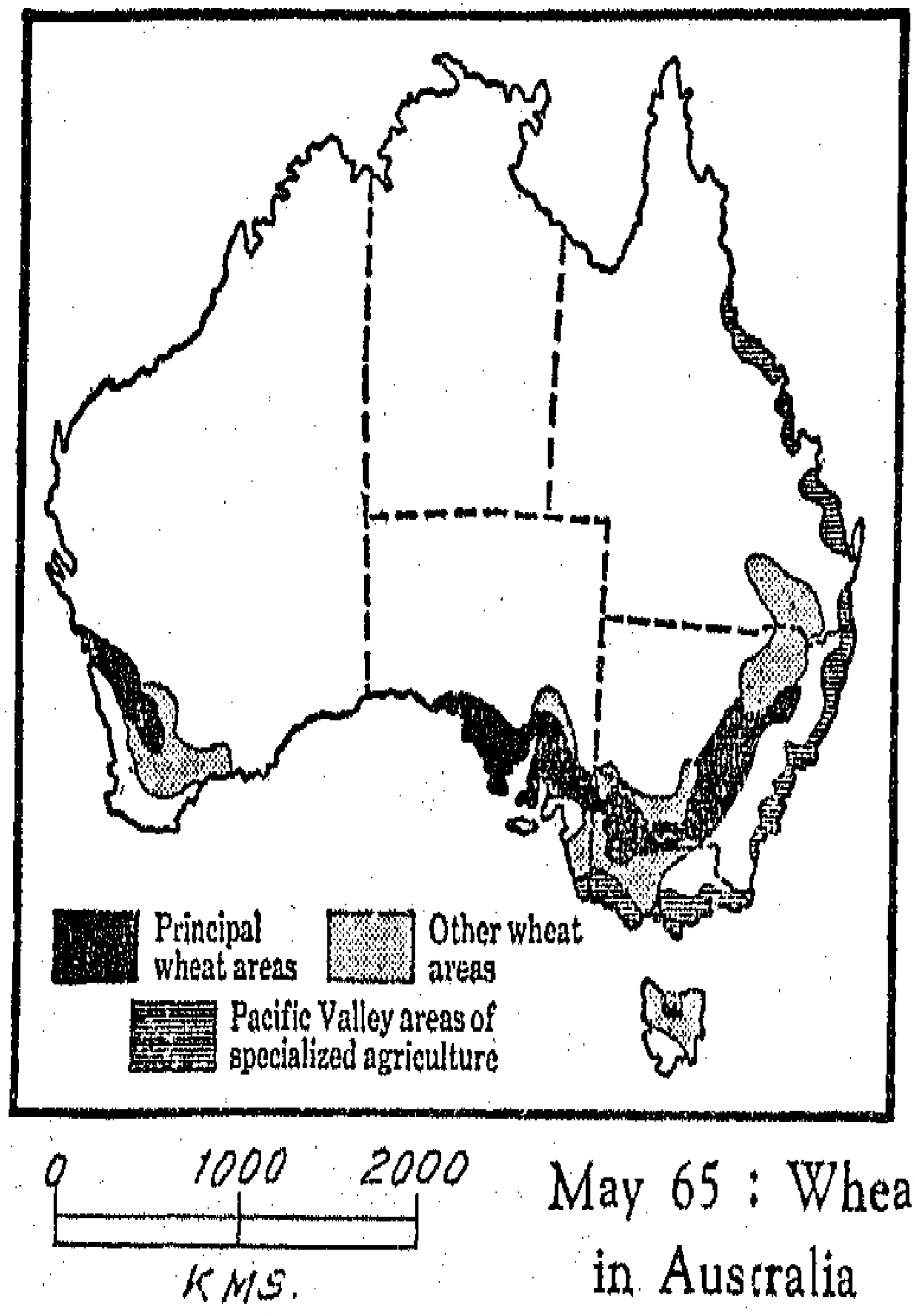


Map : 64 Australia–Cattle distribution

(v) Farming

Farming is the main activity of the Australian population. Most of the productive farmlands are found in the southeast and in the western coastal littoral. In the Murry-Darling basin as well as in the west coast, with a rainfall between 25 and 60 cms., wheat is cultivated in large farms with the help of machinery.

The wheat production is so large that Australia exports wheat in large quantities. In the northern coastal lowlands and the eastern coast of Queensland, rice, sugarcane and coconuts are grown, but their production is limited. They can be produced in much larger quantities. A variety of subtropical and temperate fruits like apples, hops, strawberries, plums, peaches and cherries are grown widely in Victoria and Tasmania.



May 65 : Wheat in Australia

In the central lowlands as well as the western plateau, practically no farming is done. On the south-west coast, in the Mediterranean climatic areas, wheat is grown in winter with the help of machinery.

(vi) Fishing

Fishing is done in the coastal waters of Australia. Most of the fishing is done along the southeast and southern coasts. In the northern tropical waters, oyster fishing is more important. The Australian fisheries are not fully developed.

(vii) Industries

In Australia, which is mainly a farming and pastoral country, industries are few and scattered. Most of them are found in the southeast. Flour milling, dairying and fruit canning are the main industries in the Murray–Darling valley. Meat packing and sugar refining are important in Queensland. Steel plants are located at *Newcastle* in New South Wales and *Whyalla* in South Australia. In the latter place, ships are also built. Metal refining is another major industry in Australia. Woolen textiles are growing in importance in southeast Australia.

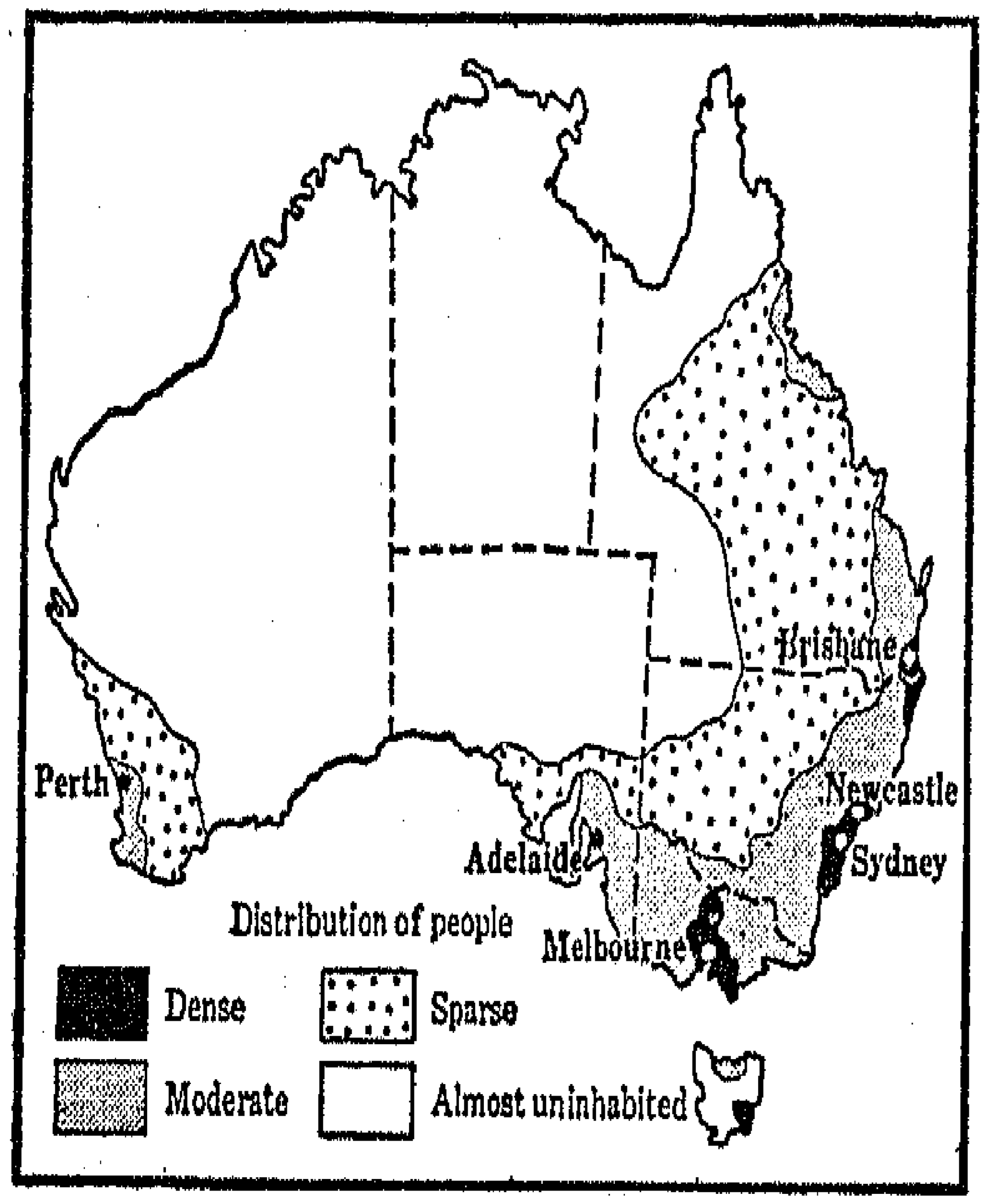
(viii) People

Nearly 10 million people live in Australia. They live mostly in the southeast coastal regions. Elsewhere, the people live in coastal towns. The population of Australia is almost entirely white and English speaking. The Australian government through its *White Australia policy* does not permit nonwhites to settle in Australia. The natives of Australia, who are called the *Australian Bushmen* are few in number and are declining. They live in the harsh surroundings of the western deserts. They are good trackers and animal hunters.

Most of the people of Australia are town dwellers. The two largest cities of Australia—Sydney and Melbourne account for a third of the people of the continent. Victoria is the most densely peopled state of Australia because of its mild, temperate climate, good farmlands, rich pastoral country and abundant mineral-wealth.

(ix) Towns

Sydney, the capital of the state of New South Wales is the largest city and port of Australia with a population of 2 millions. *Port Jackson* is its fine harbour with an arched bridge that connects the main city with North Sydney. Wool, frozen meat, wheat, butter, apples and oranges are loaded into the ships at Sydney. Woolen and other textiles and flourmills are the main industries of Sydney. Sydney is also the centre of railways of the state. It is also a large international airport.



Map 66 : Australia–Population

Newcastle on the mouth of the Hunter river is a port; it is also a coal mining and steel centre. **Canberra** is the federal capital, lying in the interior in New South Wales and connected by rail, road and air with Sydney. The Australian National University is located here.

Melbourne has threefourths of the people who live in Victoria State. There are 1½ million people living in this second largest city of Australia. It is located at the head of port Philip Bay. Port Melbourne is about 8 kms. from the city, at *Geelong*. Wool and flour mills, cheese factories and chemical plants are the main industries.

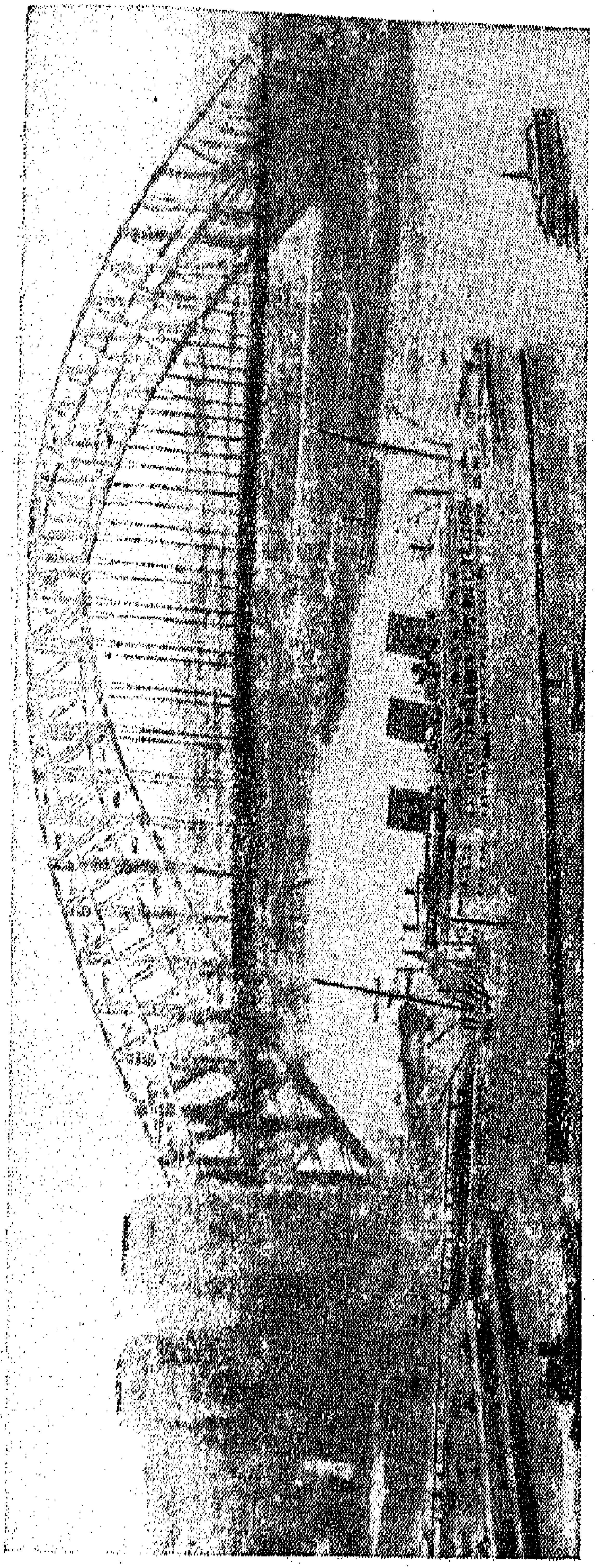


Fig. 17 : Sydney Harbour

Adelaide, the capital and port of South Australia, has a population of half a million. It is a major railway terminal and collection centre for woll and wheat. It has many wine presses. *Whyalla* on the Spencer's Gulf is a steel and ship-building centre. *Port Augusta* at the head of Spencer's Gulf is a railway junction where the transcontinental railway to Perth starts. It exports wheat and wool.

Brisbane, the capital and chief port of Queensland is about 30 kms. away from the sea on the Brisbane river. Even large ships can sail upto Brisbane through the river. *Rockhampton* is the chief port of central Queensland. It has cattle slaughter-house. It exports gold and copper. *Townsville*, another slaughter-house centre in North Queensland is also a port exporting minerals, meat, wool and sugar.

Darwin, the capital and port of North Australia, lies in a tropical monsoon climatic region. It is the first sea or airport reached in a journey from Asia.

Perth in West Australia has nearly half of the people of this very big state. It is the capital, lying on the banks of the *Swan* river. Its port is *Freemantle*, which exports wool, wheat, flour, fruits and gold.

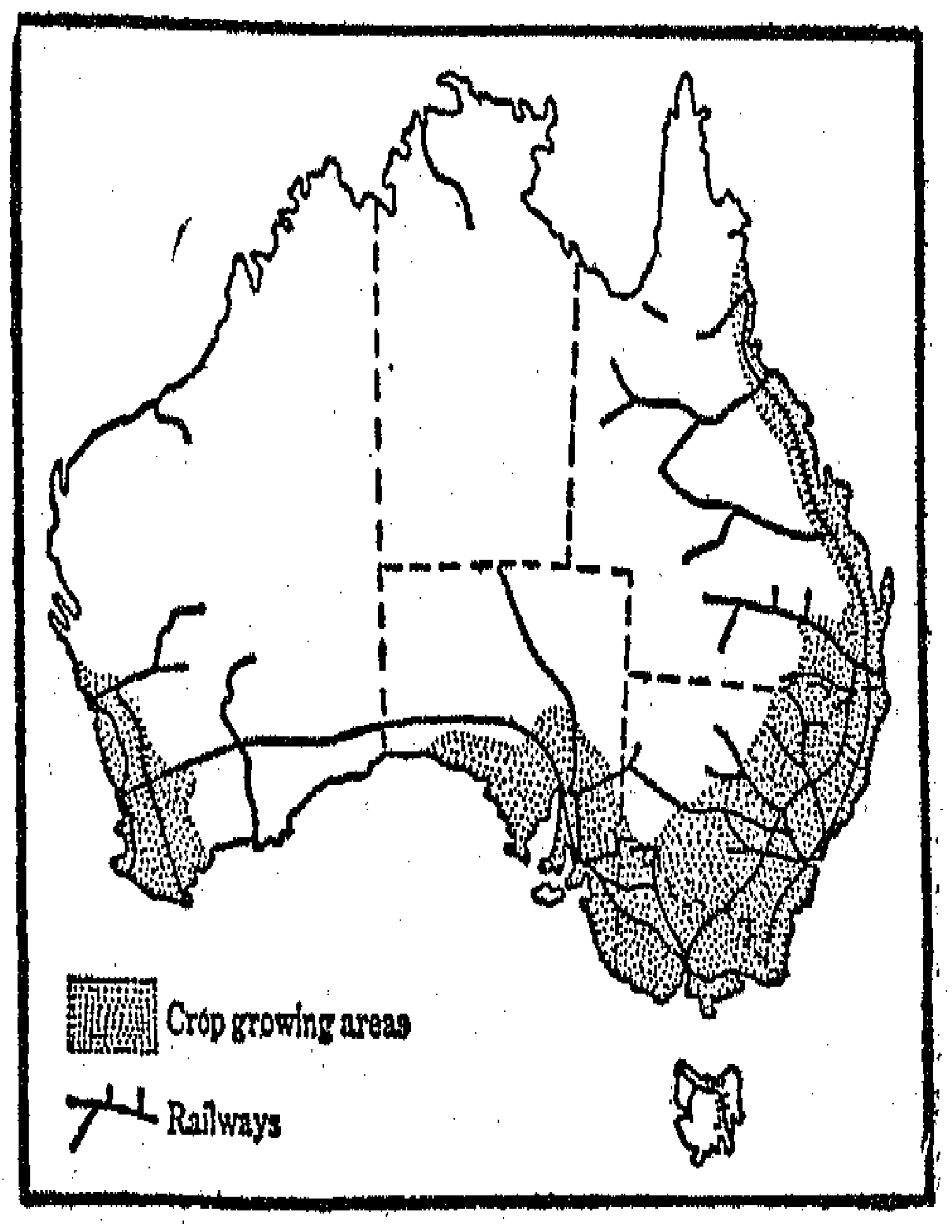
Hobart is the capital and port of the island state of Tasmania. It lies on the southeastern shores on the estuary of the river Derwent. It has large zinc refineries.

Broken Hill in South Australia is a mining centre. *Alice Springs* in central Australia is a desert town and wool collection centre.

Nearly nine-tenths of the people of Australia live in the above mentioned towns.

(x) Communications

Look at the map 66 which shows the railways of Australia. You will see that railway lines are mainly found along the east coast and in Victoria. There is only one railway which runs from Perth on the west coast, along the southern coast, to Adelaide, Melbourne and Sydney. The railways of Australia are in different gauges. For example, in a railway journey from Perth to Brisbane over a distance of 6000 kms. one has to change trains eight times. Therefore, railways are not much useful in Australia. An attempt was made to connect Adelaide by railway on the south coast with Darwin on the north coast. But this line has not been completed.



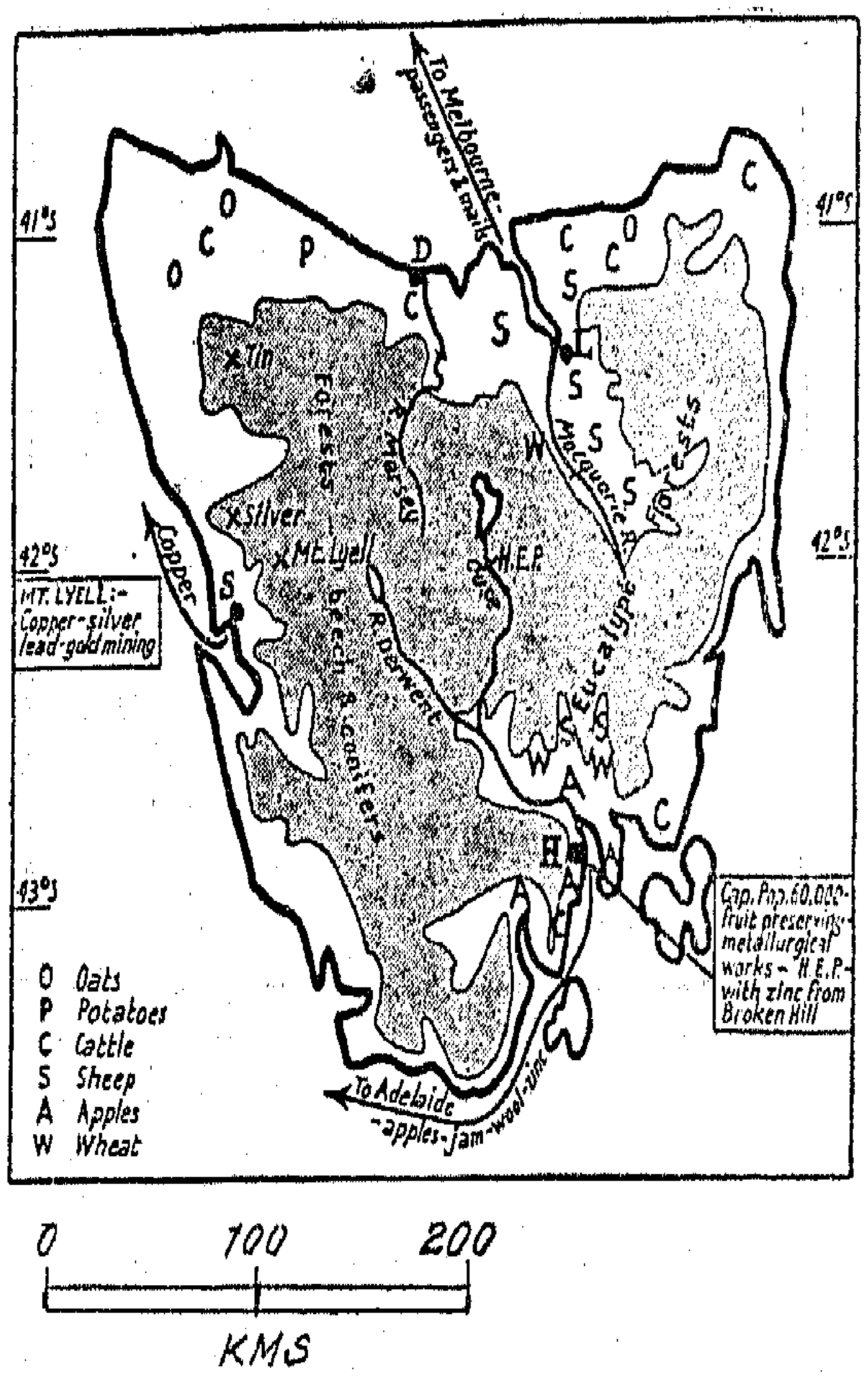
Map 67 : Australia—Railways

Note the relation between railway network and farmlands.

Roads are found mainly in southeast Australia. Airways are more important and they interconnect the Australian towns. Coastal shipping is also important to interconnect the states because most people live along the coast.

(xi) Tasmania

The small island of Tasmania lies south of the mainland of Australia. It is separated from Victoria


To Melbourne-passengers & mails
41°S
42°S
43°S
MT. LYELL:-Copper-silver lead-gold mining
Copper
Tin
Silver
Mt. Lyell
Forests
beech & conifers
R. Mersey
R. Derwent
Lake
H.E.P.
Macquarie R.
Eucalypt
Forests
H
Cap. Pop. 60,000-fruit preserving-metallurgical works - H.E.P.-with zinc from Broken Hill
To Adelaide-apples-jam-wool-zinc
O Oats
P Potatoes
C Cattle
S Sheep
A Apples
W Wheat
0
100
200
KMS

Map 68 : Tasmania—Products

State of Australia by the narrow Bass Strait. Its central parts are high, rising to more than a thousand metres. There are narrow coastal plains surrounding the central hills. Rive Derwent joins the sea in the southeast.

Tasmania has an equable, temperate coastal climate. The central hills are covered with valuable beech and eucalyptus forests. In the coastal plains, oats, potatoes, wheat, fruits like apples, hops and strawberries are grown. Minerals like copper, silver, tin and lead are mined in the northwestern parts of the hills.

Hobart, the capital of the State and port lies in the southeast.

(xii) Foreign Trade

Australia exports mainly wheat, wool, dairy products gold and mineral ores. The country imports textiles, machinery and manufactured goods. Australia

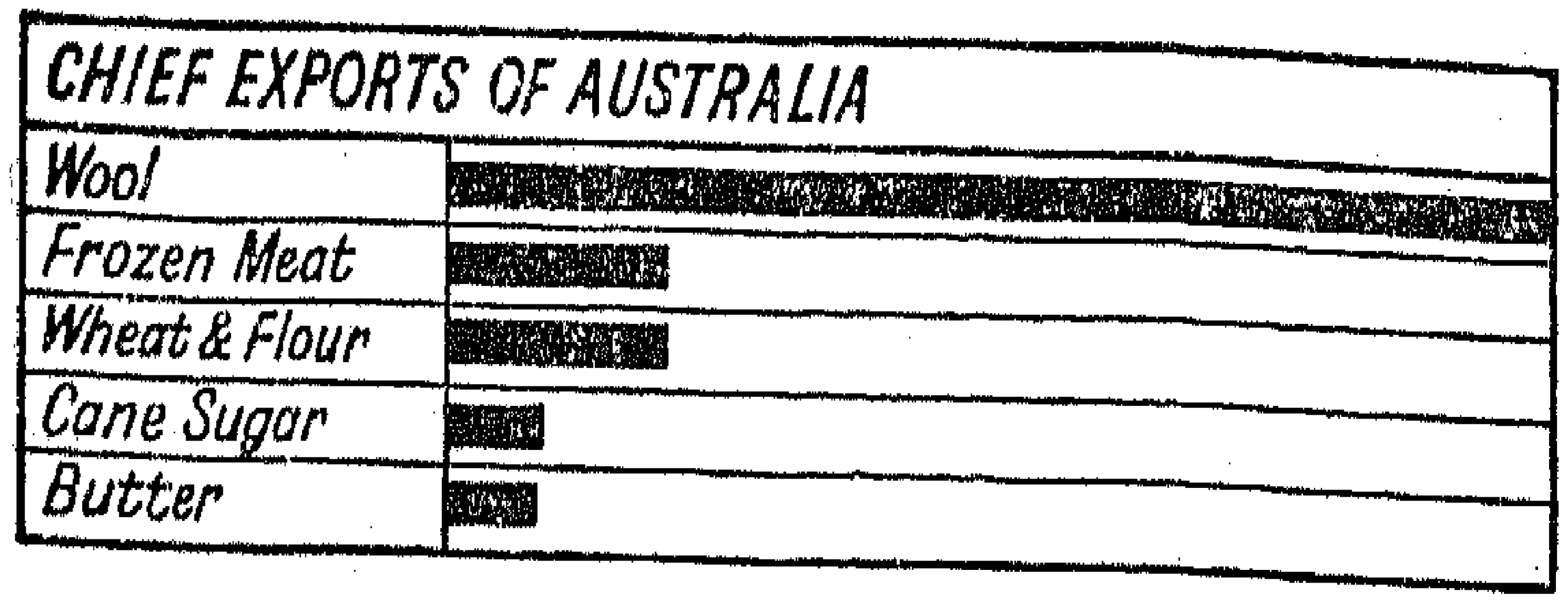


Fig. 18 : Exports of Australia

is the largest exporter of wool in the world. India imports wool and wheat from Australia and exports tea, coffee and jute.

Exercises

1. Answer the following questions:
   - (a) Why is Australia an important sheep-rearing country?
   - (b) State which areas produce the following in Australia? Wheat, sugarcane, gold and coal.
   - (c) Where do the people of Australia live and why?
   - (d) Why are railways not much useful in Australia?
2. Name the major cities of Australia. Are they located inland or along the coast? Can you explain why?
3. State the towns producing each of the following in Australia. Copper, steel, zinc, dairy products, beef.
4. Draw a sketch map of Australia and mark in it the major cities of Australia.

Project Work

1. *Study the maps in this and the last lessons showing rainfall and distribution of sheep; cattle and wheat. Write your observations on comparison between the various maps.*
2. *Collect information and photographs of the major cities of Australia.*
3. *Draw a map of Australia and show in it the major ports of Australia and the air-routes.*

CHAPTER 20

NEW ZEALAND

New Zealand lies in the South Pacific Ocean, about 2000 kms. east of Australia and it takes nearly four days to reach Wellington in New Zealand from Sydney in Australia. It consists of two main islands, the *North Island* and the *South Island* separated from each other by the narrow *Cook Strait.* A small island called *Stewart Island* lies south of the South Island.

New Zeland lies between 34° and 48° south latitudes. The South Island is slightly bigger than the North Island.

A mountain range called the *Southern Alps* runs parallel and close to the west coast of the South Island. *Mt. Cook* is the highest peak rising to more than 4000 m There are many glaciers and snowfields in this mountain. To the east of the Southern Alps lies the *Canterbury plains*. The west coast of South Island is full of fiords.

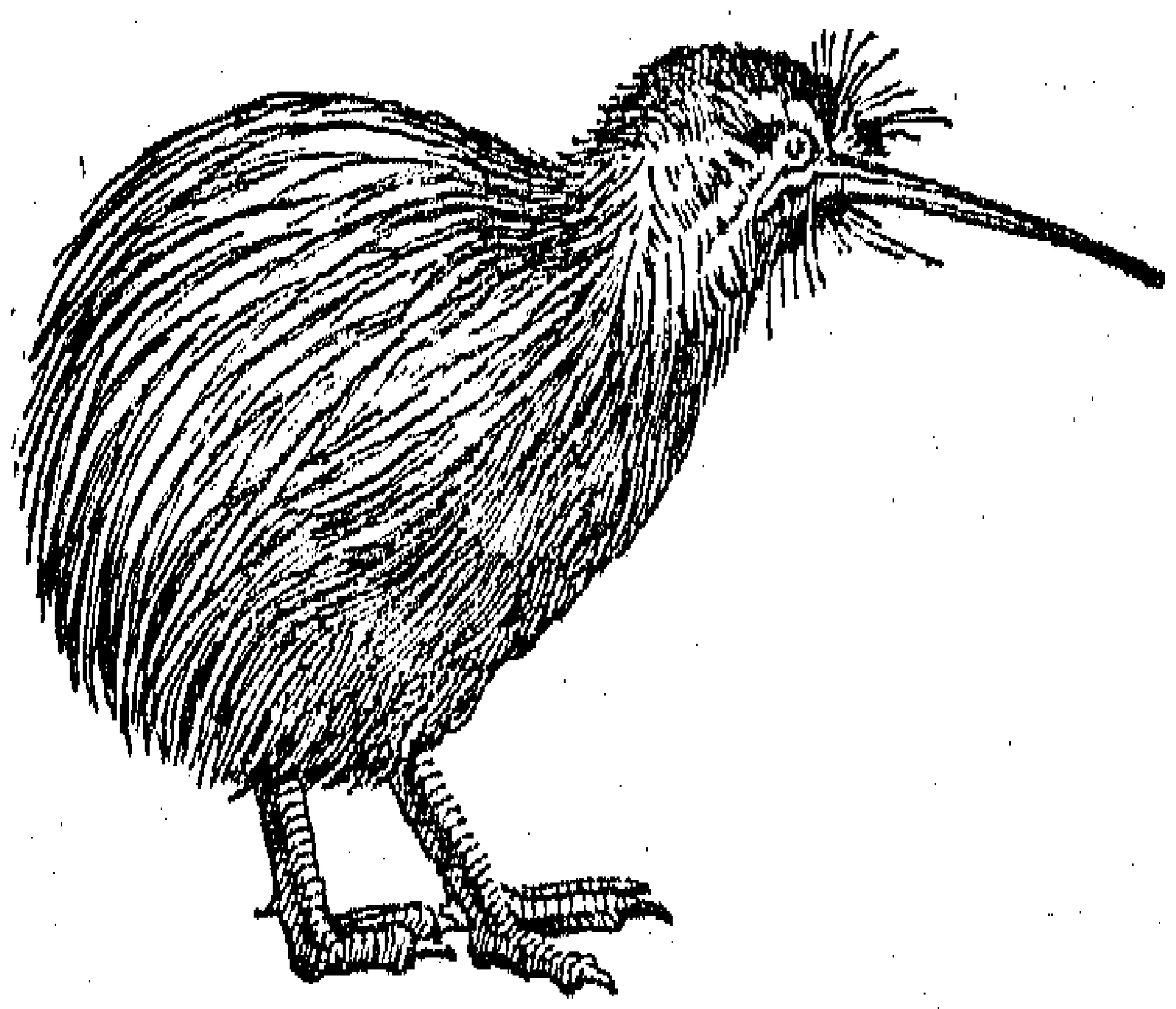
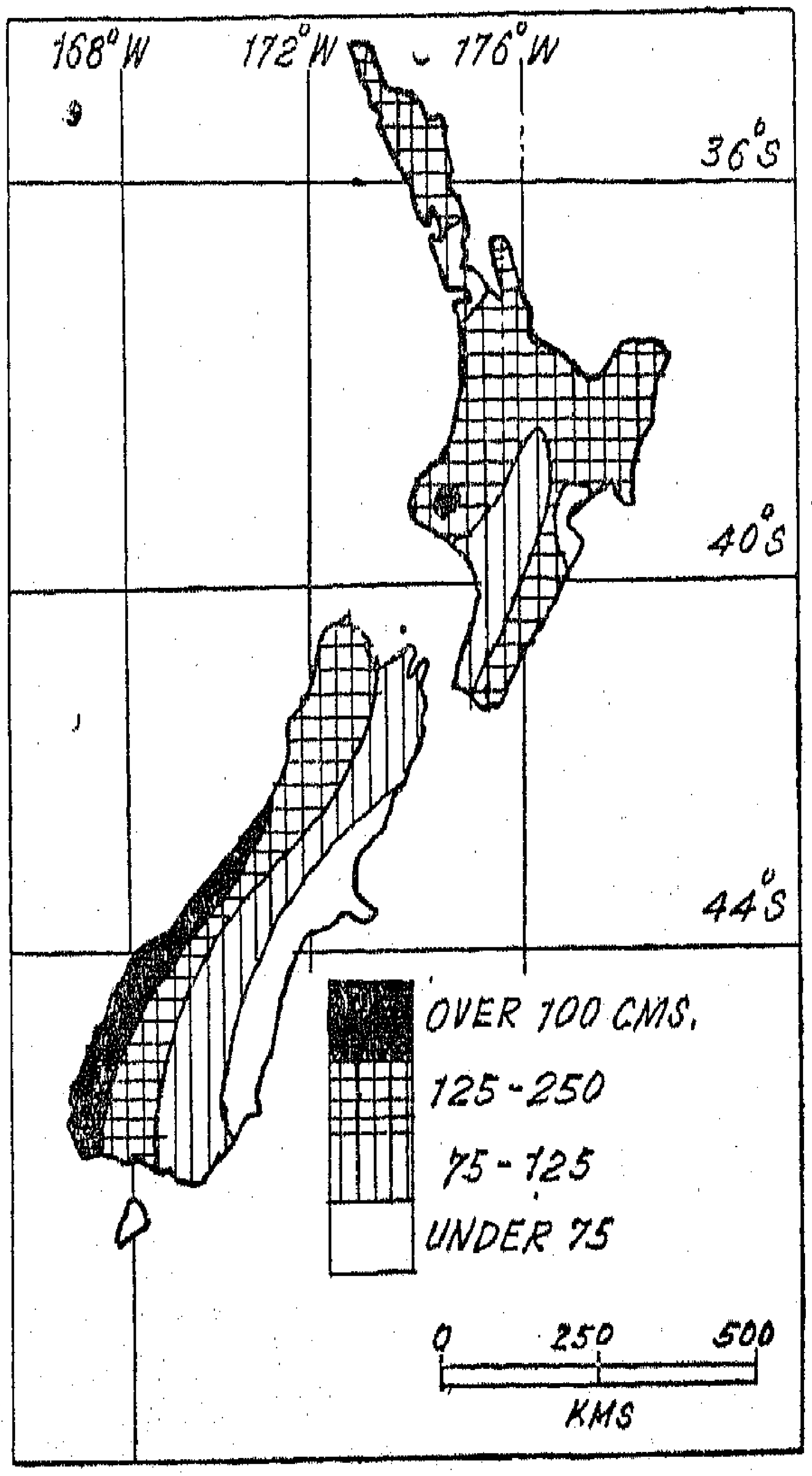


Fig 19 : Kiwi, the National bird of New Zealand

The North Island has a central volcanic plateau full of volcanoes and hot springs. To the northwest of the plateau is the narrow *Auckland peninsula* and to the south, lowlands.

New Zealand has a coastal temperate climate with warm summers and mild winters. North Island is warmer than South Island. New Zealand lies in the path of the west winds and the storms that arrive in them. Therefore, the west coast and the Southern Alps receive very heavy rainfall—more than 600 cms. The Canterbury plains and Auckland receive less rains. The Southern Island is well forested with conifers. The *Kauri pine* is an important species.



Map 69 : New Zealand-rainfall

Farming is done mainly in the Canterbury plains and the lowlands of the North Island. Wheat, fodder crops and temperate fruits are mainly grown.

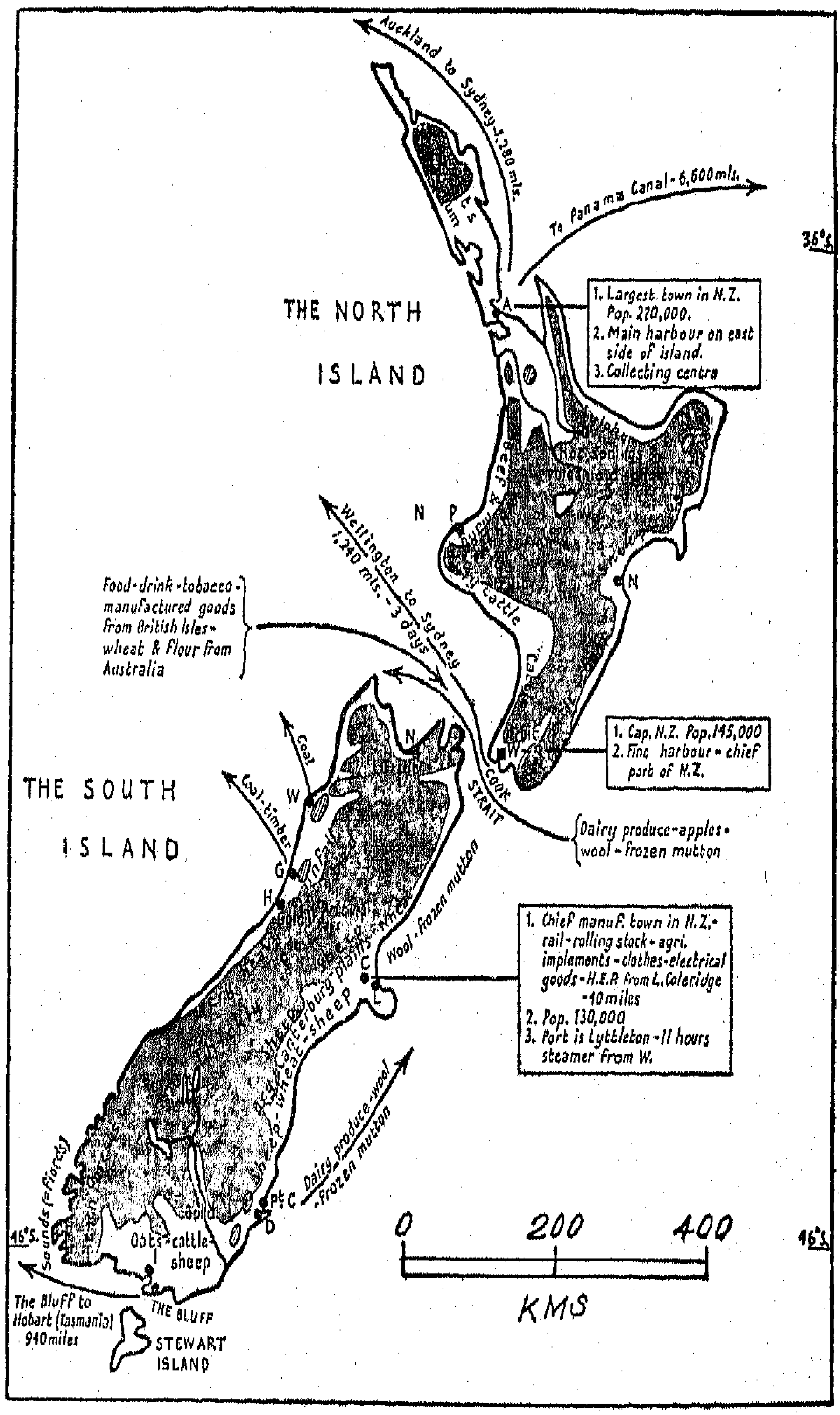
Like Australia, New Zealand is a pastoral country. The South Island, which is more hilly and cooler, has more of sheep and beef cattle in the hills and the Canterbury plains. Dairy cattle are more abundant in the North Island. Here, as in Denmark, dairying is done in co-operative farms with the help of government. The Government constantly inspects the farms to ensure quality of the dairy products. Dairy products, beef and mutton are the major items of export of New Zealand. As New Zealand lies far away from West European countries. it takes a long time for the animal products to reach Europe by sea. These products are highly perishable. Therefore, beef and mutton are frozen, before being exported. Cheese and milk powder are the main dairy products of New Zealand.

There are not many minerals in New zealand. Gold and coal are mined in small quantities along the west coast of the South Island. The small but swift streams with a regular flow are used to generate electricity.

Nearly 2½ million people live in New Zealand. It is better peopled than Australia. The natives of New Zealand are called *maoris* and they live mainly in the South Island. The people of New Zealand have mostly come from Britain and they speak English Livestock farming is the main occupation. Farming and fishing are also practised They are no major industries.

Wellington is the capital and port of New Zealand. It lies at the southern end of the North Island, overlooking the Cook Strait. *Napier*, *Plymouth* and *Auckland* are the other ports of North Island *Auckland* is palin a dairy centre. *Christ Church* in the Canterbury plain in the largest town of South Istand. It has woollen mills, footwesr factoriest and salughter-houses. *Dunedin* has woollen mills; it is a port. *Nelson* is a port on the northern tips, overlooking Wellington. *Westport* is another port.

New Zealand has railways within the two islands, but coastal shipping is more important. Port Wellington lies on international shipping routes.


Auckland to Sydney-1,280 mls.
To Panama Canal-6,600mls.
36°S.
THE NORTH ISLAND
1. Largest town in N.Z. Pop. 220,000.
2. Main harbour on east side of island.
3. Collecting centre
A
N
P
N
Beef & dairy cattle
Wellington to Sydney 1,240 mls. - 3 days
Food-drink-tobacco-manufactured goods from British Isles-wheat & Flour from Australia
1. Cap. N.Z. Pop. 145,000
2. Fine harbour - chief port of N.Z.
W
COOK STRAIT
Dairy produce-apples-wool-frozen mutton
THE SOUTH ISLAND
Coal
Coal-timber
W
G
H
N
C
Canterbury plains
Wool-frozen mutton
sheep-wheat-sheep
1. Chief manuf. town in N.Z.-rail-rolling stock-agri. implements-clothes-electrical goods-H.E.P. from L. Coleridge -40 miles
2. Pop. 130,000
3. Port is Lyttleton -11 hours steamer from W.
Dairy produce-wool-frozen mutton
Pt C
D
Sounds (=Fiords)
Oats-cattle-sheep
46°S.
46°S.
The Bluff to Hobart (Tasmania) 940 miles
THE BLUFF
STEWART ISLAND
0 200 400
KMS

Map 70 : New Zealand—Products

New Zealand exports wool, milk powder, cheese, butter, meat, hides and skins. It imports textiles, machinery, motor cars and chemicals. The trade of

New Zealand is mainly with U. K., Australia, U. S. A., and Canada.

Exercises

1. Give reasons for the following :
   (a) West coast of South Island receives more rainfall than the Canterbury Plains.
   (b) The South Island has more of sheep, while the North Island has more of cattle.
   (c) New Zealand freezes mutton before exporting.
2. How does New Zealand compare in its location, climate and products with Britain ?
3. (a) What are the imports of New Zealand ?
   (b) How long does it take to reach New Zealand by sea from Australia ?
   (c) Name the ports of New Zealand.

Project Work

1. *Find the national emblem of New Zealand. Find from your teacher why it is used.*
2. *Draw a map of New Zealand and show in it the Cook Strait, Wellington and Canterbury Plains. Can you state how the location of Wellington is suitable to be the capital ?*
3. *Collect information regarding the life of Maoris.*

REVISION EXERCISES—IV

1. Explain why the North Island of New Zealand is a dairy country while Australia is a sheep country ?
2. Australia and Central Africa are both thinly peopled, but for different reasons. What are these reasons ?
3. On a map of the world, mark the major pastoral, grain farming and mineral belts of the Southern continents.
4. Make a list of the deserts of the Southern Hemisphere. Make a list of the useful products and main towns of each of them.
5. Compare the animal life of the Southern Continents and state which of them are common and which differ.
6. State, in Australia, the following :
   (i) The Australian port nearest to India.
   (ii) The federal capital of Australia.
   (iii) A mining town that mines lead, zinc, tin and silver.
   (iv) An island state.
7. Which parts of New Zealand and Australia are alike in climate ? Compare their products.
8. Give reasons for the following :
   (i) Africa is called the dark continent and Australia as the island continent.
   (ii) S. America has all climatic types but Africa and Australia do not.
   (iii) Australia freezes her beef for export but Argentina chills it.
9. On a map of the Southern continents mark all the major cities and ports.

SECTION V

GENERAL GEOGRAPHY

In this Section, we shall briefly review what you have learnt in earlier standards regarding latitudes, longitudes and wind systems, and then proceed to study how time varies with longitudes. You shall also learn about the peculiar problem of date that arises along the 180° *longitude and the International Date Line.*

In the last class, you learnt about the major wind belts of the globe. Now you can continue this study by studying how wind belts cause ocean water to go into large circulations and how the wind systems and ocean currents bring important effects on the climate of areas lying along the sea-coasts.

You will also learn how the basic needs of human life are satisfied by man, engaging himself in different types of activities, such as fishing, hunting, grazing, farming, mining and industrial production. You can also learn why industries and factories have developed in some places only.

CHAPTER 21

LATITUDES AND LONGITUDES

You have learnt in earlier classes, that some important lines of reference are drawn on a globe. These lines, no doubt, are imaginary, but are extremely useful in determining the location of a place. These lines of reference, drawn on a globe, are called lines of latitude and longitude.

On a globe, running midway between the two poles, is a circle, called the *Equator*. The Equator divides the globe into two equal hemispheres, the northern and the southern. The Equator is known as 0° latitude. All *latitudes* are measured as angles north or south the Equator. There are ninety such latitudes from the Equator to the Pole in each hemisphere. Through each latitude, a line may be drawn to run round the globe, parallel to the Equator. These lines are called *parallels of latitude*, as they are parallel to each other. Each parallel of latitude is a full circle. These circles become smaller and smaller as you go away from the Equator, towards the Poles. The Pole is a point-circle. As each latitude is at an angle of one degree from the next, on the surface of the globe, the parallels of latitudes are *equidistant* lines. As you know already, the circumference of the Earth is 40000 kms. From Pole to Pole, it is half a circle, or 20000 kms. There are 180° of latitudes from North to South Pole. Therefore the distance for 1° arc of latitude will be $\frac{20000}{180} = 111\cdot1$ kms.

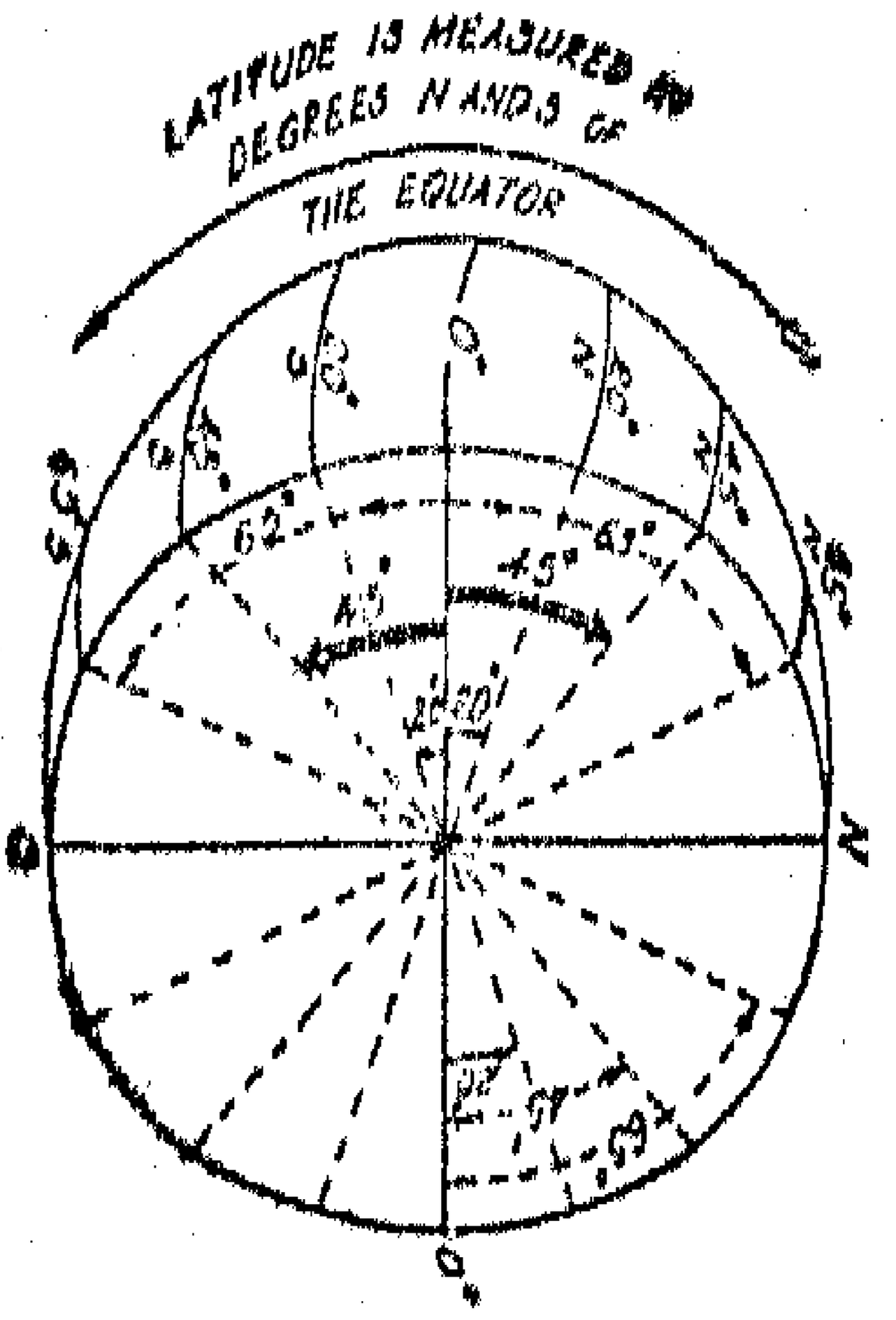


Fig : 20 Measurement of a latitude as an angular distance

Determination of Latitudes: The latitude of a place can be determined by observing the Pole Star or the position of the sun in the sky at midday. The Pole Star is a dim star that alway shines vertically over the North Pole. This star can be located in the sky on a clear night by observing the Great Bear *(Saptarishi)* system of stars. On locating the Pole Star, the maximum altitude or height in angle of the Pole Star above the horizon can be found with the help of instruments. *The maximum altitude of the Pole Star is equal to the latitude of the place.* Thus, at the equator, the Pole Star will always be on the horizon, or its altitude is 0°; therefore, the latitude of the Equator is 0°. At Bombay, the maximum altitude of Pole Star will be 19°, and therefore the latitude of Bombay is 19°N.

The Pole Star can be seen only in the northern hemisphere. Therefore, it is not useful to determine the location of a place in the southern hemisphere. However, in that hemisphere, another star close to the South Pole is used to find out the latitude

The altitude of the sun at midday is also useful to locate the latitude of the place. As you know, the sun does not always shine vertically over the Equator, the midday sun appears to move northwards and southwards from the Equator upto the Tropics of Cancer and Capricorn. The latitude over which the sun shines vertically overhead at midday on any day of the year is called the *declination* of the sun for that day. For example, on June 21, the sun shines vertically overhead on 23½° N. or the Tropic of Cancer. Hence, on June 21, the declination of the sun is 23½° N Similarly, on December 22, the declination of the sun is 23½° S.; on March 21, and September 22, it is 0° On any other day of the year, the declination of the sun can be found out from the *Nautical Almanac* or the *Panchang*.

To find the latitude of a place on any day, all that has to be done is to find the altitude of the sun's

rays at midday by any height-measuring instrument. The declination can be found from the Almanac The latitude can be found by using the following relationships :

Latitude = 90 + declination − altitude of the sun, if the sun (declination) and place of observation are in the same hemisphere;

Latitude = 90 − declination − altitude of the sun, if the sun (declination) and place of observation are in opposite hemispheres.

For example, let us find the latitude of a place, where, on June 21st, the altitude of the sun is found to be 52½°.

On June 21, the declination of the sun is 23½° N. (The sun is in the northern hemisphere.)

The altitude of the sun is 52½°.

Let us say that the place whose latitude is to be found is in the northern hemisphere (same hemisphere as the sun.

Then, latitude = 90 + declination − altitude.
= 90 + 23½—52½ = 113½—52½
= 61°N.

If the place is in the opposite (southern) hemisphere,
latitude = 90 − declination − altitude
= 90 − 23½ − 52½ = 14°S

Uses of latitudes: Latitudes are useful in locating a place. We can always find out from the latitude how far away from the Equator, a place is. We can know whether a place is in the northern or southern hemisphere. Some latitudes are particularly important. The 23½°N. and 23½°S. latitudes or the Tropics of Cancer and Capricorn are important, because the sun never

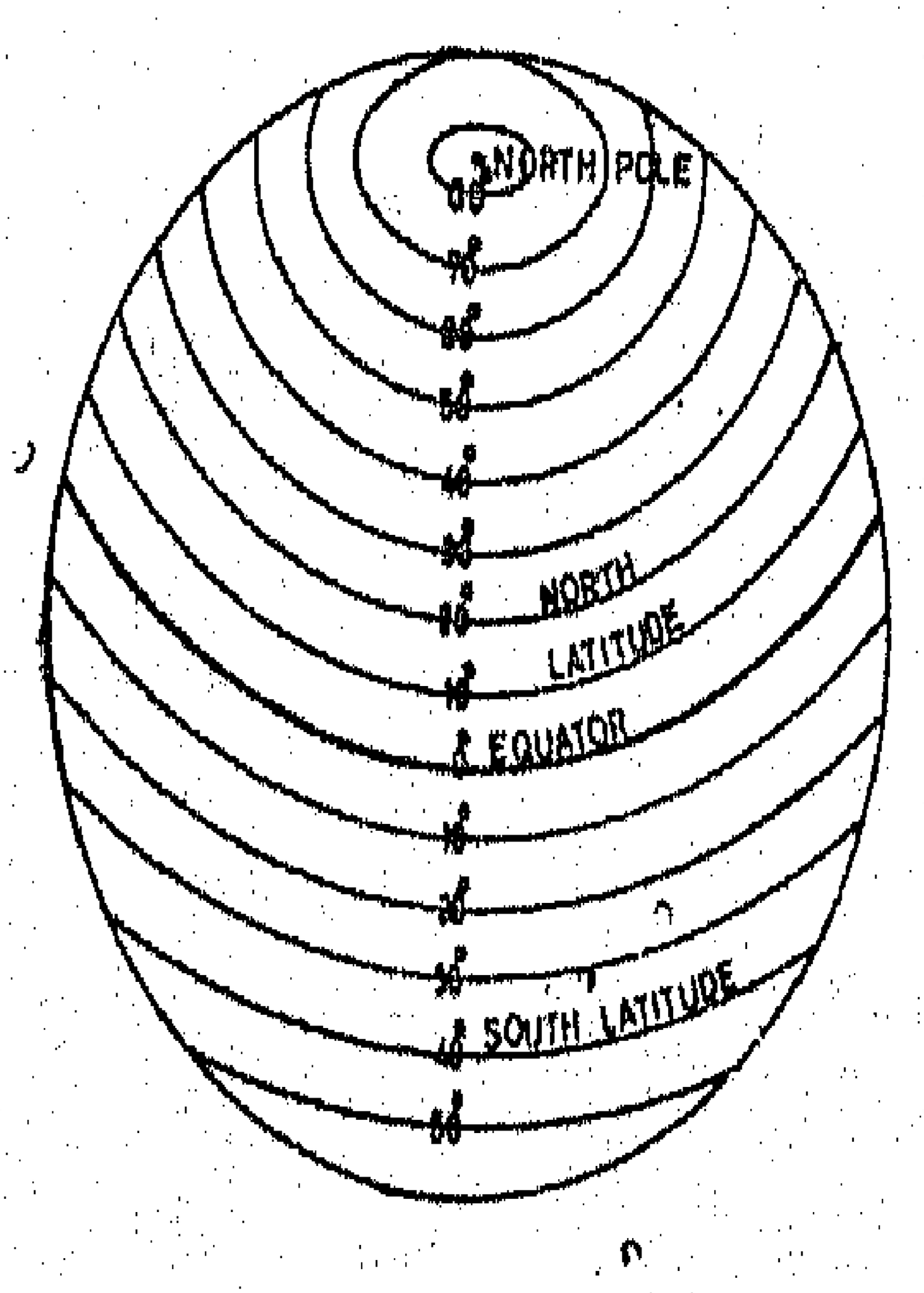


Fig 21 : Latitudes

shines overhead beyond these two latitude circles. So also, the Polar circles or 66½°N. and S. are the latitudes beyond which the sun on summer-solstice day shines even at midnight while in winter-solstice day, the day becomes 24 hours night.

Latitudes are very useful in determining the climate of a place. As the sun's rays become more slanting towards the poles, the temperature decreases from equator to poles. Therefore, on the basis of latitudes, and solar heat received, we may divide the Earth into Zones. The Greeks, and later the present day weather scientists divide the world into broad temperature zones.

The zones of the world : Each hemisphere is divided into three major zones or temperature belts. In all, there are five zones in the world. Between the Equator and the Tropic circle (23½° lat.), is the *Torrid Zone* or the hot zone, in which the temperatures through out the year are high. The summers as well as winters are hot. This zone is also called the *mega-thermal zone.*

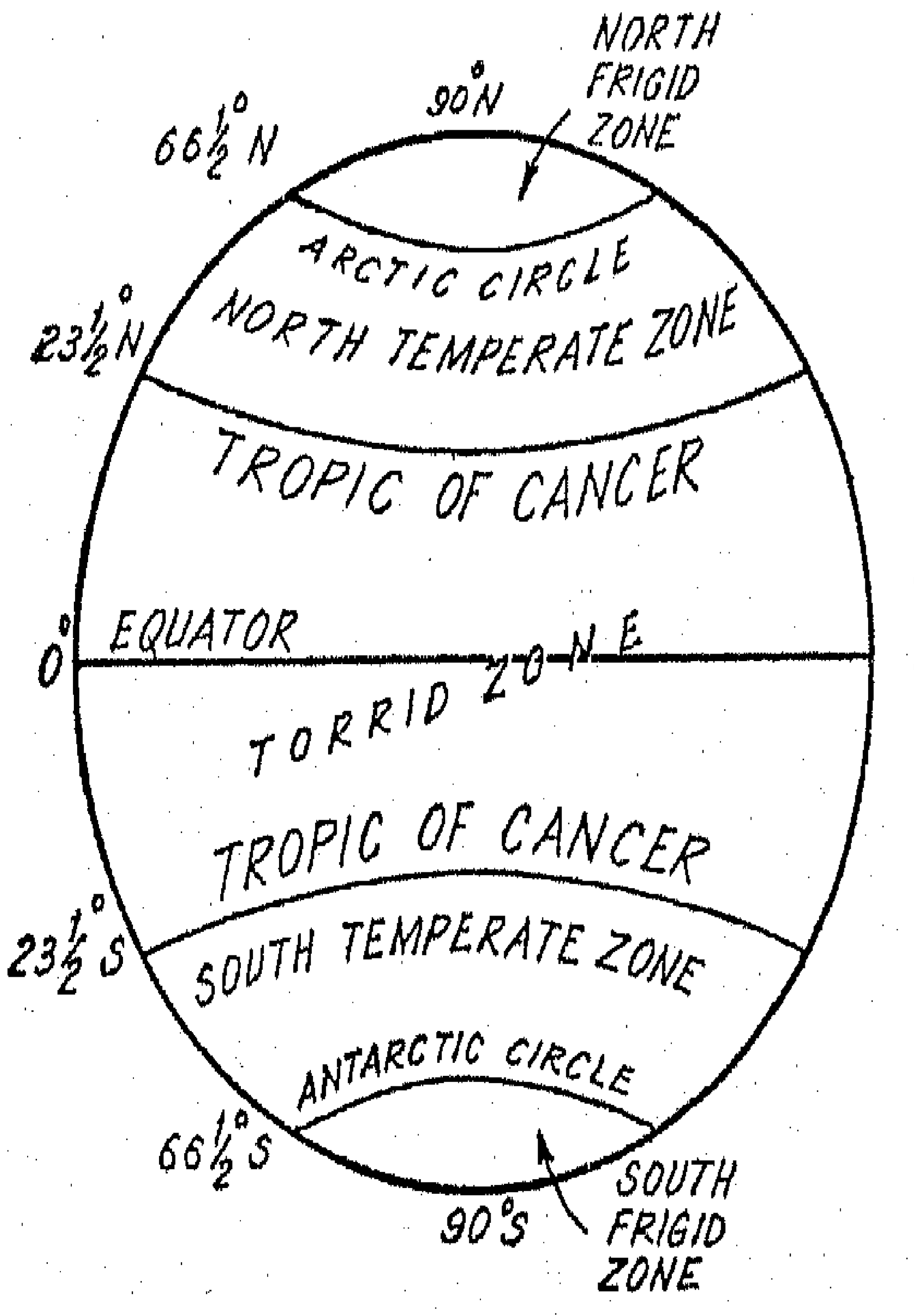


Fig. 22 : Zones of the World

Beyond the Tropic circle upto the Polar circle is the *temperate zone* or the *mesothermal belts.* Here, the temperatures are moderate. The summers are mild to warm while the winters are cool.

Further beyond, between the Polar circle and the Pole are the *frigid zones,* where temperatures are low all the year, because the sun is always close to the horizon. Here, the summers are short and cool, while winters are long, severe and freezing. It snows during winter.

Thus, we may recognise, in all, 5 thermal zones on the globe :

(i) The North Frigid Zone between 90°N. and 66½°N.

(ii) The North Temperate Zone between 66½°N. and 23½°N;

(iii) The Torrid Zone between 23½°N. and 23½°S;

(iv) The South Temperate Zone between 23½° and 66½°S; and

(v) The South Frigid Zone between 66½°S and 93°S.

Longitudes :

Just as latitudes run west to east in circles round the globe, there are lines joining the North Pole and South Pole, running north to south. These lines are called *longitudes.* Because the longitudes run from Pole to Pole over half the circumference of the earth, they are only half circles, and not foll circles. Unlike latitudes, longitudes are all of the same length, each being equal to half the circumference of the earth or 20000 kms. in length. The longitudes meet at the Poles. At the equator, they are farthest apart. Each longitude cuts every latitude at right angles.

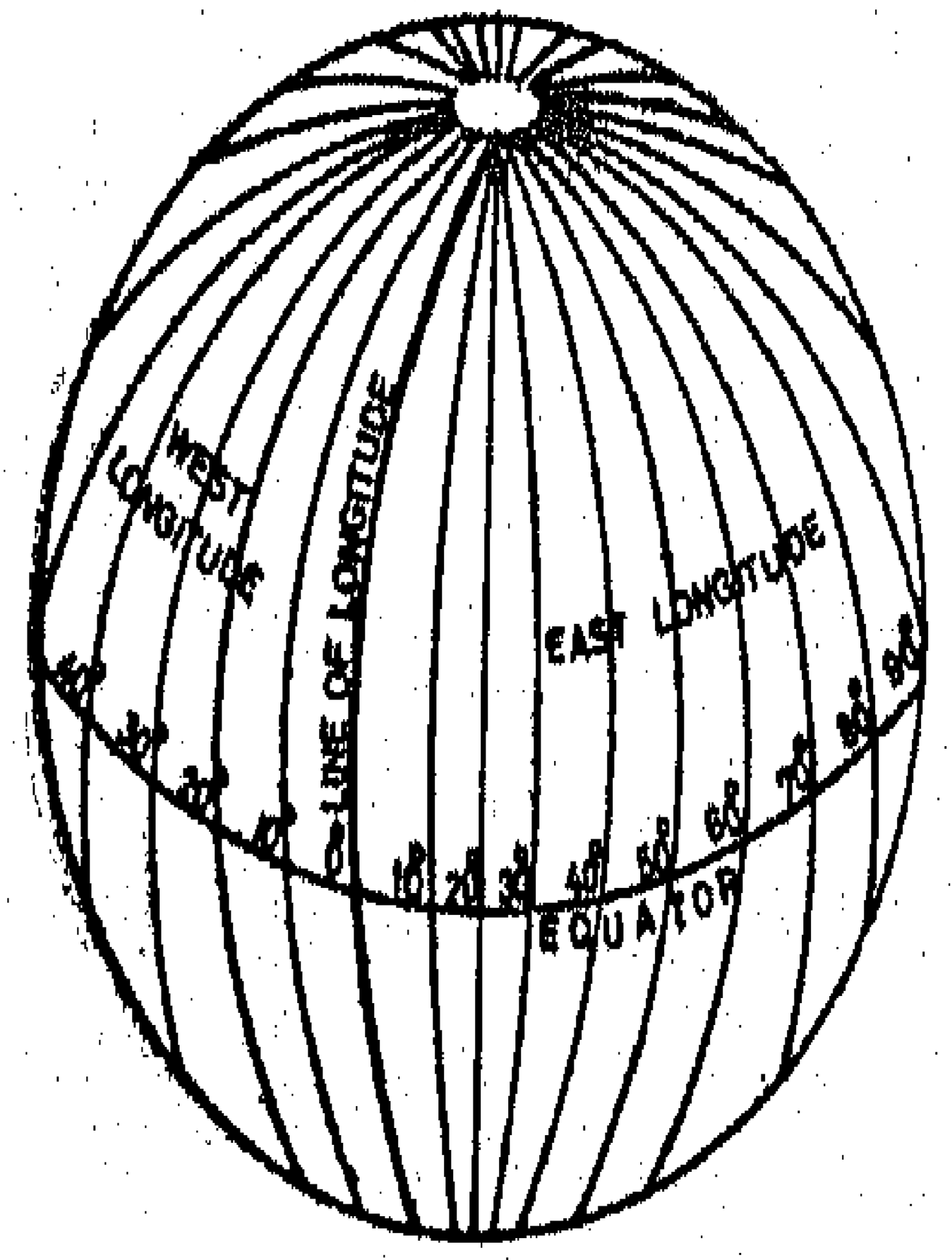


Fig. 23 : Longitudes

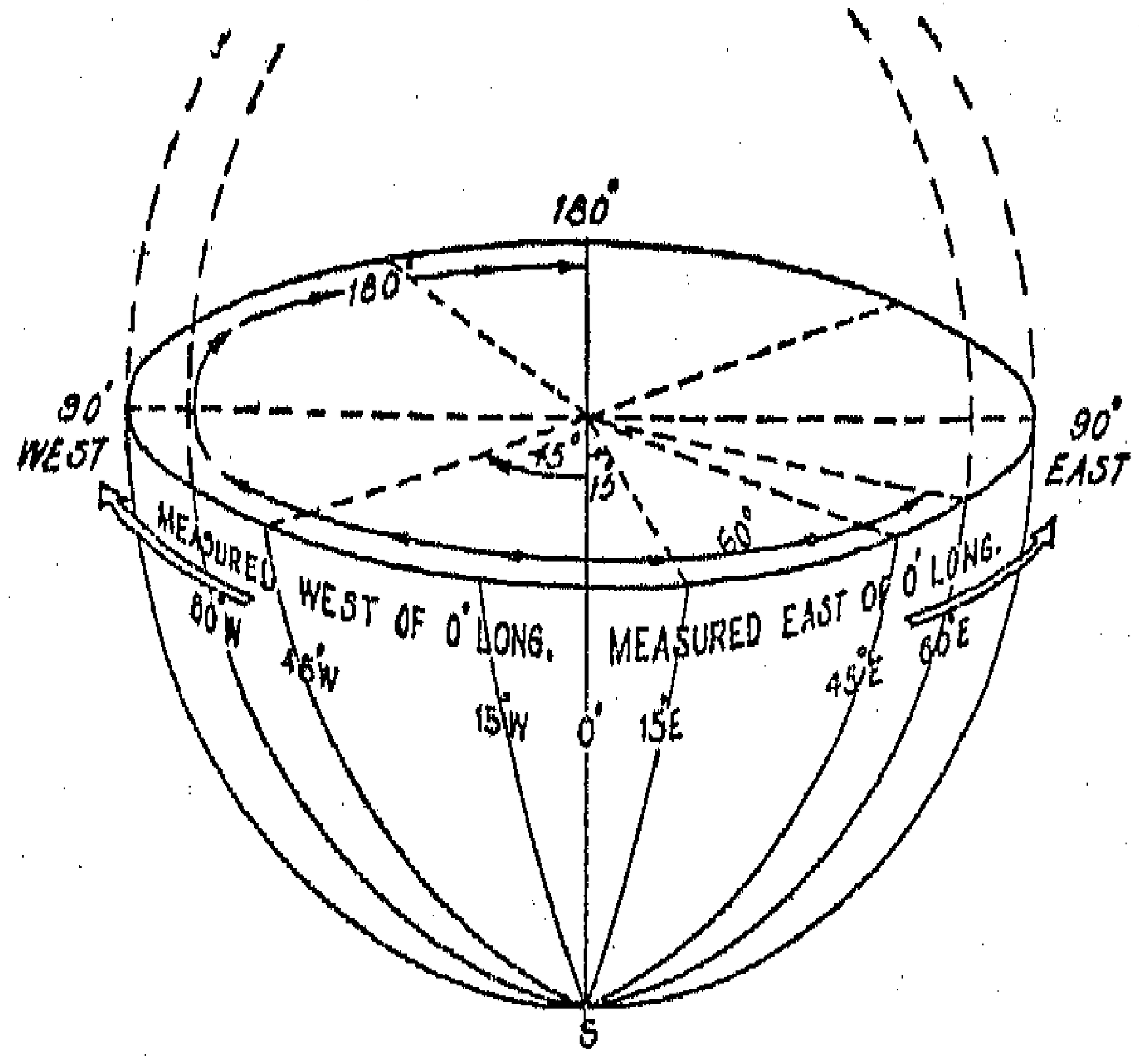


Fig. 24 : Measurement of Longitudes

Just as the Equator is chosen as 0° latitude, the longitude passing through the *Greenwich observatory* at London is called 0° longitude or the *Prime Meridian.* All other longitudes are measured east or west of the 0° longitude as angles. There are in all 360° of longitudes, 180° to the east and 180° to the west of the Greenwich longitude. Because the globe is spherical, the 180° W. and 180° E. longitudes are one and the same longitude.

Longitudes are also useful in locating a place; you can find out how far west or east of the 1° longitude a place lies. If you know the latitude and longitude of a place, it can be precisely fixed, just as you can fix a place on a sheet of graph with the help of x and y axes. To be complete in location, the latitude of a place must be stated as north or south, and the longitude as west or east. Thus, for example, the precise location of Bombay is 19°N., and 73°E., which means that Bombay is 19° to the north of the equator and 73° to the east of the 0° longitude. Or in other words, Bombay is located at the point of intersection of 19°N. latitude and 73°E. longitude.

Longitudes are useful in another way too. They can be used to find time. As you know already, the sun shines overhead at a place at midday. It is called *local noon.* The earth rotates on its own axis, once completely round itself, in 24 hours or a day. When the earth rotates once completely, it has rotated through 360° of longitudes. In other words, it takes 24 hours for the earth to rotate through 360°, or one hour to rotate through 15° of longitudes and 4 minutes through one degree of longitude. Now, you know that the earth rotates from west to east. Hence the sun appears to move in the sky from east to west; places in the east get the sun overhead earlier, and as you go westwards, the sun shines overhead later and later. Or in other words, the midday arrives first in the east longitudes, and as you go westwards, it occurs later and later. *Time increases eastwards and decreases westwards.* It is at the rate of 4 minutes per degree of longitude, or one hour for 15 degrees of longitude. As the sun moves east to west, across longitudes, time varies according to longitude. It does not change with latitude. Every longitude will have midday when the sun shines overhead. All over that longitude, the time will be the same. Therefore, longitudes are called *meridians*. Meridian means equal time.

Midday or noon occurs at different times on different longitudes. Therefore, each place has its own time, depending upon its longitude, and the noon passage of the sun. This time of a place determined by its longitude, and the midday passage of the sun is called its *local time.*

In a large country like ours, there are thousands of places. Each place has its own local time. If every place adopts its own local time, there will be great confusion, particularly while travelling from one place to another. Therefore, the local time of a place centrally located in that country is adopted as the time for the entire country. This is done for convenience and to avoid confusion. This time, so adopted for a country or a region, is called the *Standard Time.* For example, over the whole of India, the local time of Allahabad (82½°E longitude) is adopted as the time for the whole country. It is called the *Indian Standard Time* or is shortened as I. S. T. The I. S. T. is 5½ hours ahead or earlier than the time at 0° or Greenwich longitude.

Longitude determinations: Longitude of a place can be determined if the time at Greenwich (0° longitude) is known, when it is midday (noon) at the place. You can determine the time difference between Greenwich and the place, and convert it into longitude difference at the rate of 1° for 4 minutes. If the place has a time in advance of Greenwich, it has east longitude. If it has a time behind that of Greenwich, its longitude is west.

For example, let us find the longitude of a place where it is midday, when it is 7·08 a. m. at Greenwich.

The time at the place is 12·00 noon (midday).

The time at Greenwich is 7·08 a.m.

The time difference between Greenwich and the place is (12·0-7·08) = 4 hours and 52 mts. or 292 mts.

It takes 4 mts. for the earth to rotate one degree of longitude. In 292 mts. the earth rotates through $\frac{292}{4} = 73°$ of longitudes. The time at the place is in advance of time at Greenwich. Hence, the place has a east longitude. The *longitude of the place is 73°E.*

Let us take another example. What will be the longitude of a place where it is midday when it is 7·20 p. m. at Greenwich?

Time at the place—12·0 noon.

Time at Greenwich—7·20 p.m.

Time difference between Greenwich and the place—7 hrs. 20 mts. or 440 mts. At the rate of 4 mts. per longitude, the longitude difference is $\frac{440}{4} = 110°$.

Time at the place is behind that of Greenwich. Therefore, the place is west. The *longitude of the place is 110°W.*

Just as we can find the longitude of a place from time, the time of a place can be found from its longitude. For example, let us find the time of a place on longitude 75°E., when it is 4·30 a. m. at 125°E longitude.

The longitudes of the two places are 75°E and 125°E. (both east). The longitude difference between the two places is 125—75 = 50°. At the rate of 4 mts. per longitude, 50 longitudes will have 50 × 4 = 200 mts. or 3 hours 20 mts. time difference.

Time at 125°E. is 4·30 a. m.

Place at 75°E is west of place at 125°E; therefore its time will be less. Time at 75°E. will be 3 hours 20 mts. less than that at 125°E. or it will be 4·30—3·20 = 1·10 a. m.

The International Date Line : Let us find the time at different longitudes when it is 6·00 a. m. Monday on 0° longitude. The time increases eastwards and decreases westwards at the rate of 1 hour for 15° of longitude. Therefore, when it is 6·00 a. m. Monday at 0°, it will be 7·00 a. m. at 15°E., 8·00 a. m. at 30°E., 11·00 a. m. at 75°E., 1 p. m. at 105°E., 5 p. m. at 165°E., and 6 *p. m. Monday at 180°*E. longitude. If you go west of 0° longitude, the time, when it is 6·00 a. m. Monday at 0° longitude, will be 5 a. m. at 15°W., 3 a. m. at 45°W., 1 a. m. Monday at 75°W., 12 midnight Sunday/Monday at 90°W., 11 p. m. Sunday at 105°W., 8 p. m. at 150°W., and 6 *p. m. Sunday at 180° W.* longitude. Therefore, when it is 6·00 a. m.

Monday at 0° longitude, it is 6 p. m Monday at 180°E. longitude and 6. p. m. Sunday at 180°W. longitude. As you have studied earlier, *180°E. and 180°W. longitudes are the same.* The time on this longitude remains the same, but the day differs, according as you go eastwards or westwards. If you travel round the world, and cross the 180° longitude eastwards, from east longitude to west longitude you will move from Monday backward to Sunday. On the other hand, if you move from west to east longitude across 180°., you will jump from Sunday to Monday ahead.

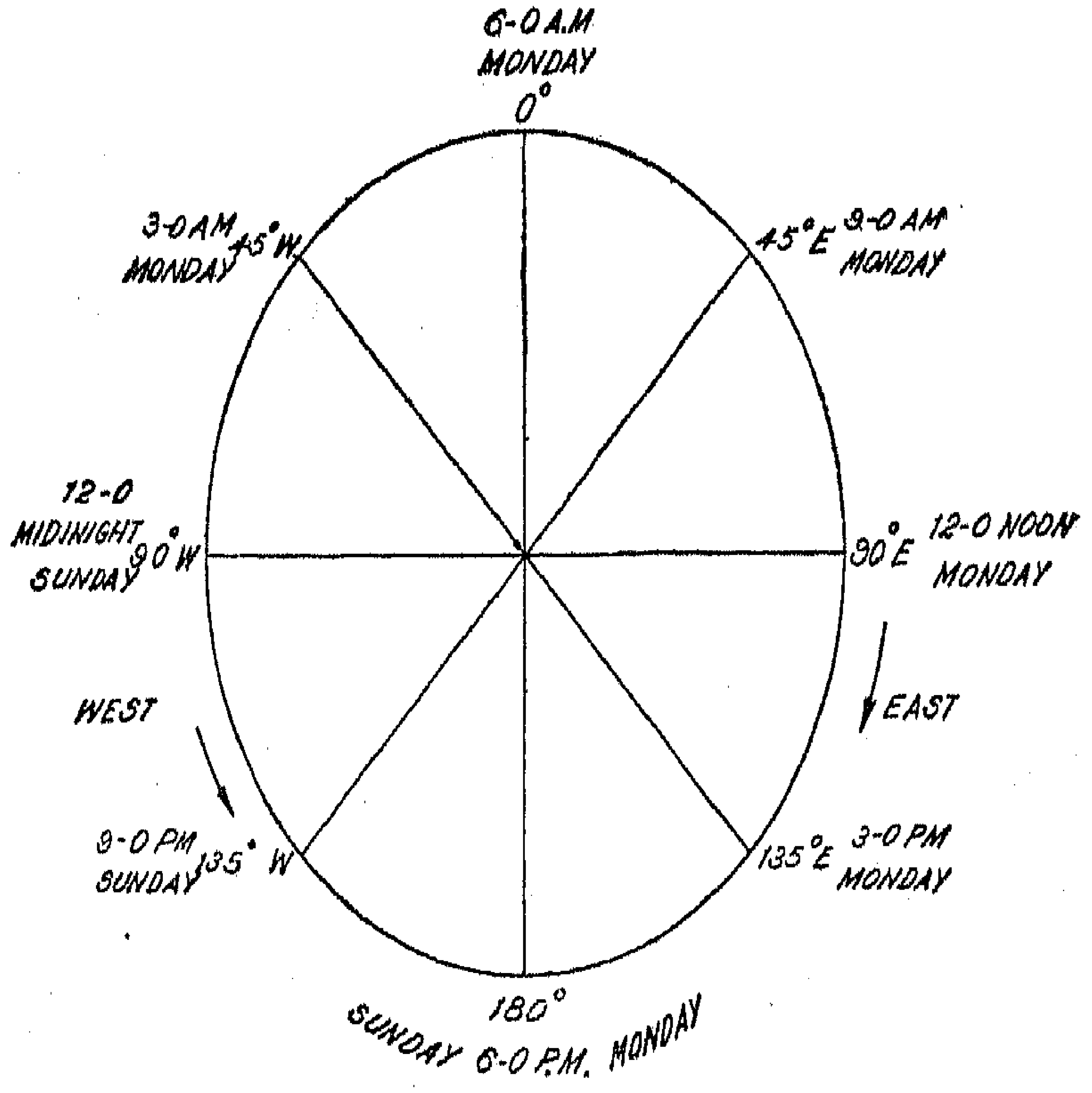


Fig. 25 : Time at different longitudes, when it is 6-0 a. m. Monday on 0° longitude.

Why does this happen? It happens, because the globe is a sphere. This results in same confusion in day along this longitude. Where the 180° longitude passes over land, it is a great problem to find the day. To find a way out, the *International Date Line* is created.

Look at a globe and carefully observe how the 180° longitude runs from Pole to Pole You will immediately note that this longitude, for most part, runs through the Pacific Ocean. It passes over land in small areas only. It runs over the extreme eastern part of Siberia in Asia, and through some island groups. The International Date Line runs along the 180° longitude over the sea. Where 180° longitude crosses the land, in order to avoid confusion in day, the Date Line deviates east or west from 180° to avoid land and run over water.

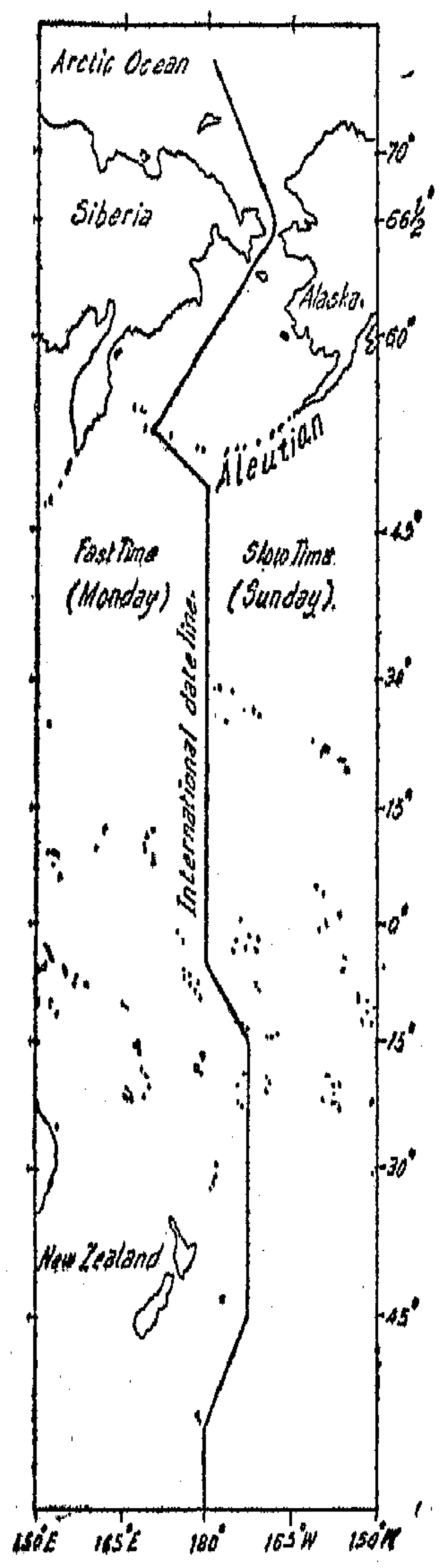


Fig. 26 : The International Date Line

By international agreement, while travelling across the International Date Line, the day and date are changed. Travelling eastwards, the day and date are put back by one day because in the west longitudes, it is the previous day, from what you have already learnt in the last page. From Wednesday, you go back to Tuesday, if you cross 180° eastwards. Travelling westwards, the day and date are pushed ahead by one day—from Wednesday, you change to Thursday (the next day) because in the East longitudes, the day is ahead of what is found in the West longitudes. Thus, the calendar date is changed by one day ahead or behind, while crossing the International Date Line; therefore the Date Line is also known as the *Calendar Line.*

Exercises

1. Compare parallels of latitudes and meridians of longitudes.
2. Answer the following :
   (a) How many latitudes and longitudes are there on a globe ?
   (b) How are latitudes and longitudes useful ?
   (c) What is the relation between longitudes and time ?
   (d) How is latitude determined from Pole Star observation ?
   (e) How does day change while crossing the International Date line ?
   (f) What is standard time ? What is I. S. T. ?
3. Give reasons for the following :
   (i) Longitudes are called meridians.
   (ii) Latitudes are full circles but longitudes are half-circles.
   (iii) The International Date Line does not run straight.
4. Draw a sketch to show the major zones of the world.
5. State in which zone the following countries lie :
   Britain, Peninsular India, Burma, Norway.
6. Fill in the blanks :
   (a) There are——degrees of latitudes and——degrees of longitudes on the globe.
   (b) Time——westward and——eastwards.
   (c) The I. S. T. is——hours——of Greenwich time.
7. (a) Find the longitudes of places where it is 4.20 a. m., 5.16 p. m. and 7.30 p. m. when it is noon at Greenwich.
   (b) Find the latitude of a place where the sun at midday has an altitude of 65° on December 22nd. Work the same exercise for June 21.

Project Work

1. *From a map of the world, trace the 180° longitude and the International Date Line. Find where the Date line runs away from 180°, in which direction and why ?*
2. *Make a table naming the countries you have studied this year and their capitals. From an atlas, find the locations, of all these capital towns.*

CHAPTER 22

OCEAN CURRENTS

The water in the open ocean is driven steadily in the same direction due to a number of reasons. This steady movement of seawater in the open ocean in one direction is called an *ocean current.* An ocean current moves with a steady speed, and has a definite volume. At times, very large volumes of water drift slowly in a direction Then, it is not called a current, but is named a *drift.*

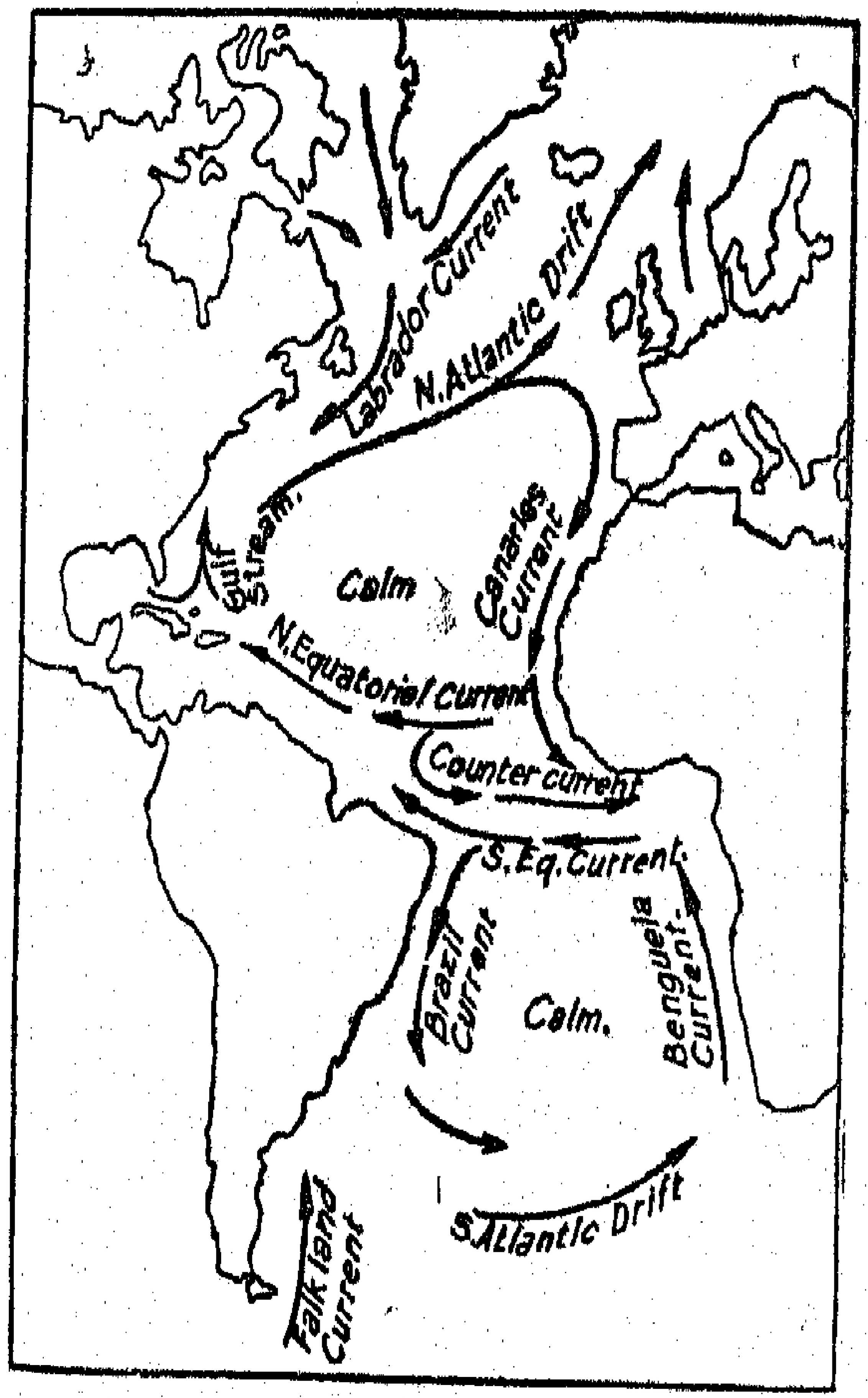
Causes of Ocean Currents : Ocean currents are caused by different factors. Temperature is one of them. Close to the equator, the water is heated and expands while close to the Pole, the water remains cold and heavy. The cold, heavy water sinks below, while the warm light water floats on the surface. Also, the warm water moves along the surface from the equator to the pole, while the cold water sinks and spreads at depths.

Differences in saltishness of water brings about differences in density and therefore a regular flow of currents.

Periodic rise and fall of water under moon's attraction, known as tides, also cause currents.

Though differences in temperature, saltishness of seawater and tides cause currents, the main cause of currents are winds.

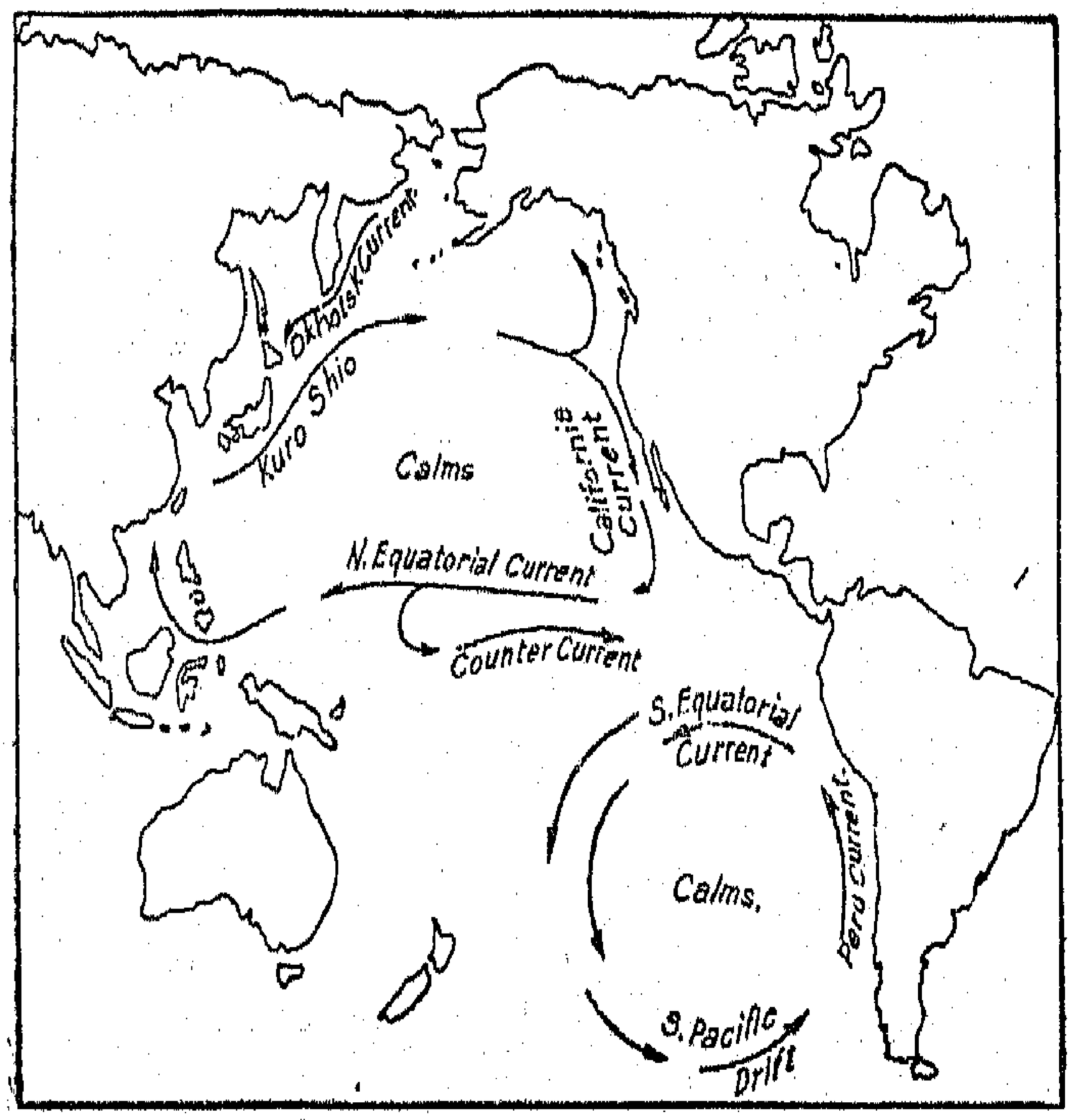
As you have learnt in the last standard, the trade winds blow from the east within the tropics, while in midlatitudes, the west winds blow all the year. In some parts of tropical oceans like the North Indian Ocean, southwest monsoon winds blow in summer. When such winds blow seadily over long periods in the same direction, the winds drive the surface water of the sea in the same direction to develop into currents.



Map 71 : Currents of the Atlantic Ocean

Look at the three maps (Nos. 70, 71 and 72) showing the major currents of the Atlantic, Pacific and Indian Oceans. You will see that in each ocean, there are what are known as *equatorial currents* flowing east to west on either side of the equator and parallel to it. These currents flows west, because they are driven west by the trade winds. Along the east coasts of continents (or the western margins of ocean), you can observe currents running along the coasts, from the equator towards the poles. On the other hand, on the west coasts of continents, (east margins of oceans), you will see that the currents flow from higher to lower (or in other words, pole to equator) latitudes. Thus, the currents in the west and east coasts flow in opposite directions. In midlatitudes, the currents flow from west to east. This happens, because in these latitudes, the west winds carry the ocean water with them towards the east.

In high latitudes, you will see currents running equatorward on the east coast and poleward on the west coast.



Map 72 : Currents of the Pacific Ocean

The currents on the east coasts in low and mid-latitudes flow from low to high latitudes, and carry warm water with them. Therefore, they are *warm* currents. The current on the west coast flows from high to low latitudes and carries cool water. Therefore, it is a *cool* current. Similarly, in high latitudes, the current on west coast is warm, but the current on east coast is *cold*, because it comes from the Polar seas and brings ice with it.

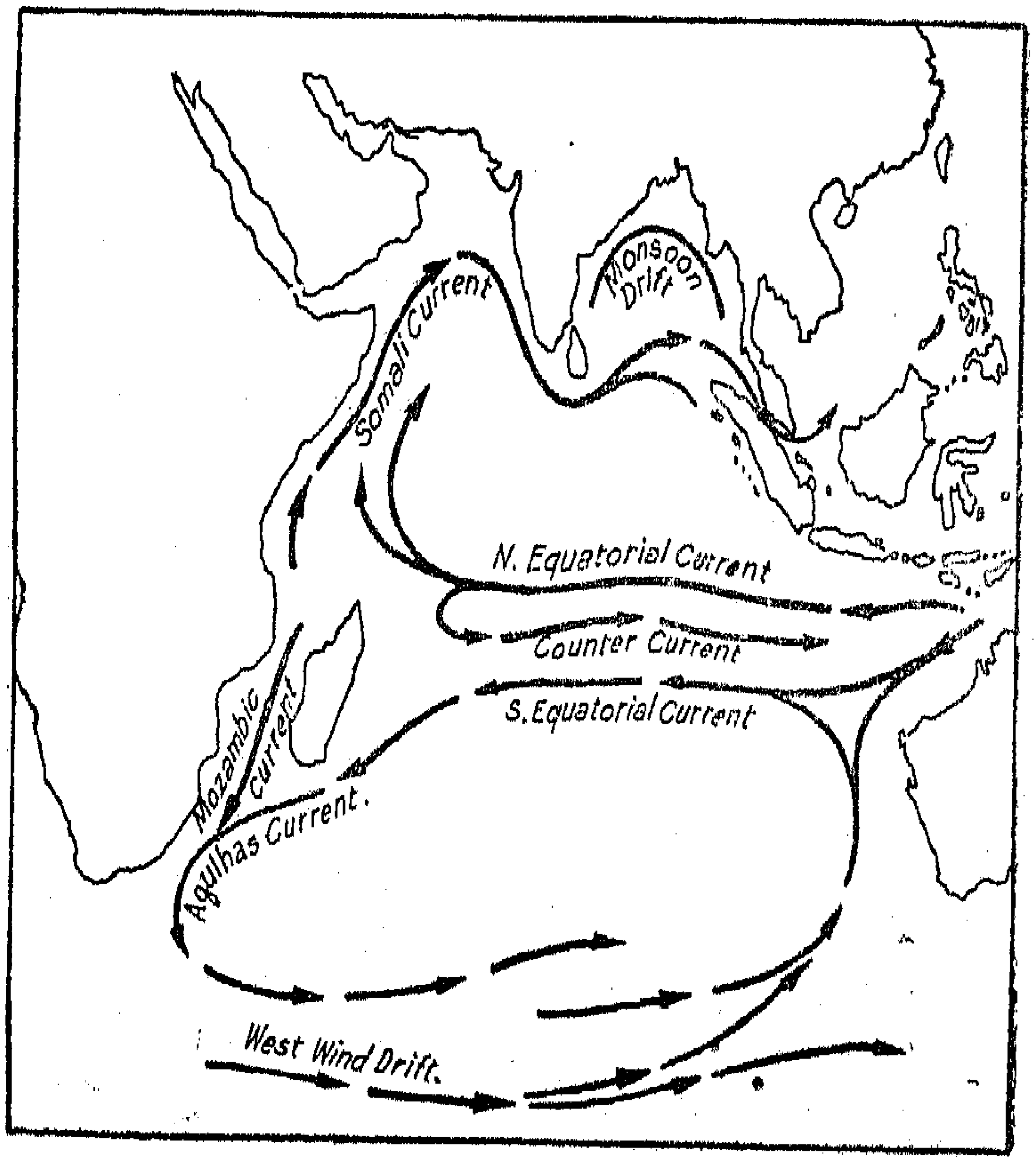
Let us now learn about the main ocean currents of the different oceans.

In the North Atlantic, the *Gulf Stream* is the main current. It flows along the west coast of North America northward, turns east about 50° N. latitude, and then flows north along the west coast of Europe. It is known as the North Atlantic Drift on the European shores. It is a warm current.

Another important current of the N. Atlantic is the *Labrador Current* that flows south along the coast of Labrador in Canada. It is a very cold current.

The *Benguela current* is the most important current of the South Atlantic. It flows north along the coast of Africa. It is a cool current, in contrast to the *Brazil warm current* that flows south along the coast of Brazil.

In the N. Pacific, the main current is the *Kuro Siwo*. It flows north along Philippines, China and Japan. It is a warm current like the Gulf Stream. The *Okhotsk current* flowing south along the Siberian coast is a cold current like the Labrador current.



Map 73 : Currents of the Indian Ocean

In the S. Pacific, the *Peru current* is the most important; it flows north along the west coast of Chile and Peru. It is a cool current.

In the South Indian Ocean, the main current is the *Mozambique current* flowing south along the East African coast. Along the east coast of South Africa, it is called the *Agulhas current*. It is a warm current.

In the North Indian Ocean, currents change with the season. In winter, when the N.E. trade winds blow, the currents move from east to west. But in the monsoon season, when the S. W. monsoon winds blow, the currents flow in the opposite direction, from west to east, because the wind has changed in direction.

Effects of currents and winds on climate : When wind blows from the sea, it brings moisture and therefore gives rain. It also brings down the temperature on land. Coastal areas, where onshore winds blow, get good, pleasant sea-breezes and have an equable climate. Heavy rain in the Western Ghats of India are due to the monsoon winds from the sea. They bring a lot of moisture and when they climb the hills, they give rains. On the other hand, offshore winds are dry and often chilly.

If the wind blows from a lower to a higher latitude, they bring warmth. If they blow from high to low latitude, like the winds over China in winter, they are cooler.

So also, when warm currents flow along the coast, they make the land warm. Cool currents make the coast, cool and dry. For example, N. W. Europe has an equable climate, because the warm North Atlantic Drift flows along the coast. The ports of Britain or Norway do not freeze even in winter, though they are in high latitudes, because the sea is warm due to the warm current. But when a cool current flows, as along the west coasts of S. America, S. W. Africa and Australia, the coast is cool and dry, and becomes a desert. Labrador, in Canada, is almost a cold desert because of the cold Labrador current.

When warm and cool currents meet, thick mists or fogs develop, as along the mouth of the St. Lawrence river and in Newfoundland. Such fogs are dangerous to shipping, because one cannot see far in the fog.

However, such mixing of currents in shallow seas makes them excellent grounds for fishing. North Sea, coasts of Japan and Newfoundland have become major fishing grounds because of mixing of currents.

Exercises

1. What are the causes of currents ? Which is the most important cause ?
2. Why are some currents warm while others are cool or cold ? Give examples of each.
3. Enumerate the important effects of currents on climate.
4. Why has Japanese coast developed large fishing grounds ?
5. Why do currents change with season in North Indian Ocean ?
6. Compare the Gulf Stream and the Kuro Siwo; the Peru Current and the Benguela Current.

Project Work

1. *Study the three maps in the lesson. Classify the currents shown in them as poleward and equatorward currents. Euumerate also the cold currents. Which of the currents influence most countries ?*
2. *Group similar currents of the three oceans together and state whether they are warm, cool or cold.*

CHAPTER 23

SATISFACTION OF HUMAN WANTS

To live, man wants air to breathe, water to drink, food to eat, clothes to wear and a shelter to sleep in. Except in very high altitudes, air is available everywhere on land. Water is not available everywhere to the same extent. In some places, we have plenty of water, even in excess. In others, water is available only seasonally; and we have to go in search of water or dig deep wells. There are still others, like deserts, where water is more precious than gold. People always crowd in areas where plentiful supplies of water can be had easily, while deserts are thinly peopled. This is because we need water not only to drink, but also to cook, for the livestock we keep, for the crops we cultivate and even for industries. We build houses and villages only in places where water is available.

But too much of water stagnating on the ground is also not welcome; because it leads to spread of diseases.

The food that we eat is mostly got from the plants and animals of the world. Long ago, when there were fewer people in the world having a low level of culture, man used to gather food from the plants. Nowadays, we engage in different occupations to earn a living and make our food.

For clothing too, we depend upon the plants and animals. In hot climate, man does not use much cloth. The equatorial people like the *pygmies*, or the desert people like the *hottentots* are practically naked. In tropical countries, we need light clothes that allow quick perspiration. That is why we use cotton clothes in India. In cold countries like Britain, the body has to be kept warm. That is why woolen clothes are used, and the people of the cold countries cover more fully their bodies than the people in the tropics. In polar regions, with freezing cold, man has to protect himself from cold, and therefore covers his body from head to foot. Even woollen clothes are not enough to keep the warmth and therefore, fur clothes are used. Cotton is obtained from a plant while wool and fur are got from animals. Silk from silkworms is used for clothing because of its fineness. Jute, linen and hemp are other fibres used at times in clothing but more often for packing. Nowadays, new manmade fibres like rayon, nylon and terylene are used for clothing, but to get these clothing materials, industries are necessary.

Man engages himself in occupations to get food requirements and clothing. Besides food and clothes, man needs many other things, to make his life comfortable. When he lives in comforts, he can work more and better. For this purpose, he has to make useful articles and things which he does by engaging in different crafts, home industries or large factory production. Exchange of goods is often necessary between one part of the world and another, and therefore trade and transport are also important occupations.

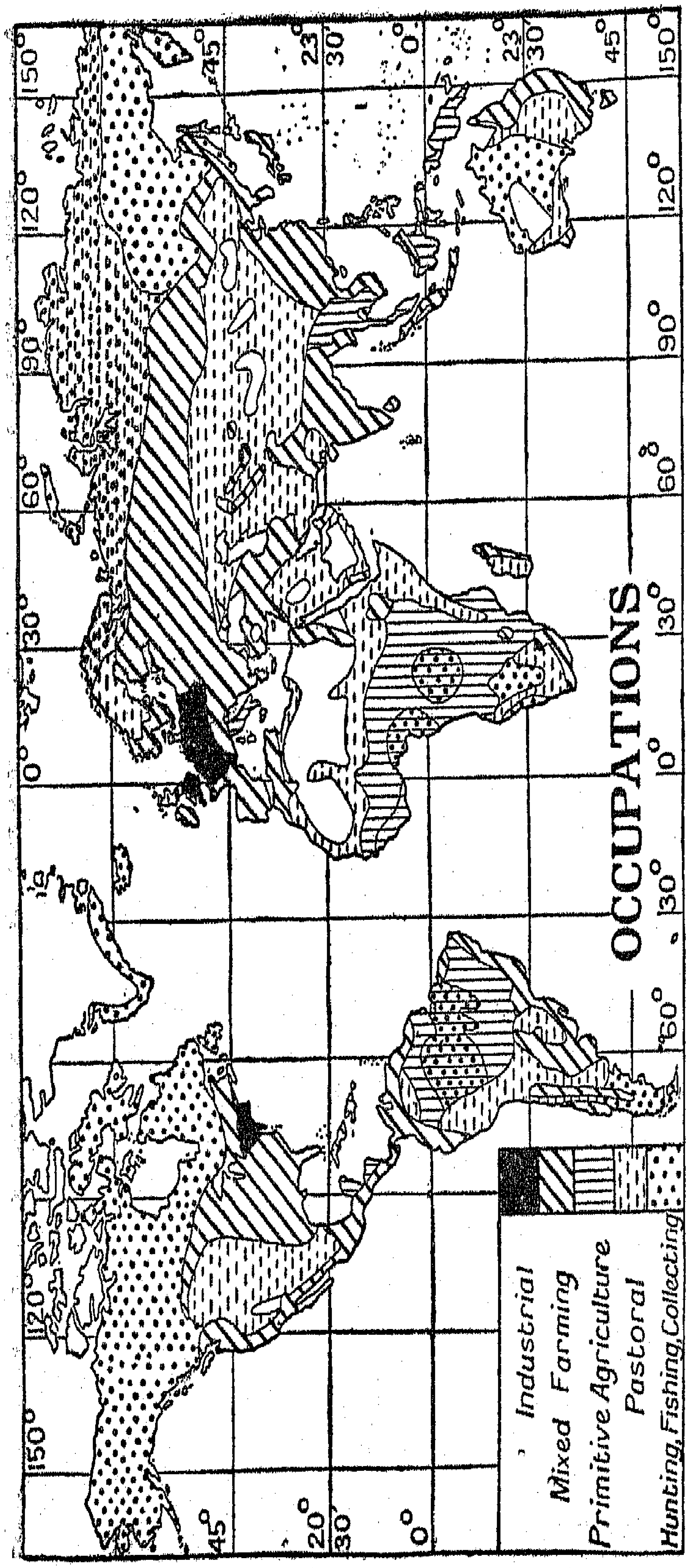
Every one cannot engage in all occupations. People engage in one occupation or another according to the suitability of the region. Some parts of the world are better suited for farming while others for industries and still others for rearing of livestock.

Study the map 73. You will see that farming is an important occupation in the monsoon regions of the world, the vast temperate grasslands, and in the Mediterranean climatic regions. This is because in these areas, climate is mild for crops in summer or winter or in both seasons. The soil is productive. The crops grown vary according to climate, but the crops best suited for the climate are generally grown. For example, in monsoon lands, rice and sugarcane are grown, while in temperate areas wheat, sugarbeet and potatoes are grown. In Mediterranean countries, wheat, fruits and vegetables are grown. In hill slopes of rainy tropics, tea and coffee are grown, while in lowlands close to equator, oil-palm, cacao and banana grow. Cotton, maize and tobacco grow with a warm, moderately rainy climate.

The vast tropical and temperate grasslands, like the Llanos, Campos and Pampas of S. America, the savanna of Africa and Great Plains of the U. S. A. are regions where large herds of livestock are reared. In the deserts and semideserts, where water is scanty, nothing grows and man constantly moves with his belongings. He becomes a nomad. In extreme cases, he even becomes a raider, like the *Tauregs* of Sahara. In the cold polar regions as well the rainy rainforest, there are few people who live by hunting, fishing and gathering food.

In N. W. Europe and N. E. United States, industry and commerce are the main occupations, because the climate is healthy and efficient. People are technically skilled and minerals are available. They get the necessary raw-materials from all over the world and convert them into industrial products with the help of machinery driven by coal or water power. They do not produce much food but exchange their industrial goods for food and industrial materials with other parts of the world. Industries bring much income and that is why in these areas, people have a high standard of living. Agriculture, when prosperous, brings good income but not so much as industries. Hunting and fishing can neither support many nor give a stable living. Nomadism leads to an uncertain living.

To have a shelter, to protect ourselves from the heat of the sun, rain or gusty wind, we build our



Map 74 : Human Occupations

houses. To build houses, we get the necessary materials from nearby. The type of house and roof are all dependent upon the climate. For example, in Deccan, people use stones to build their houses while in Konkan, they use laterite bricks In Kerala and Assam, bamboo is used. In the river plains and deltas, clay and mud or bricks are used to make wall and floor. In coniferous forests, people use wood even for walls. The poor man's hut is made of twigs and dried leaves plastered with mud. The nomad lives in a tent made of skins, because skins are easily available to him Polar eskimoes make use of ice blocks to make *igloos.*

The roof is sloping in places with heavy rains as in Konkan and Kerala. In dry areas like Deccan and Rajasthan, houses have flat roofs. Houses have doors and windows in the direction of pleasant breeze. In Mediterranean countries, houses have shutters to shut off glare. In hill slopes, the roofs are weighted with heavy stones so that the wind does not blow off the roof.

Exercises

1, Why do people engage in different occupations ?
2. Which parts of the world are farming regions ? Why ?
3. Why do industrial areas have a high standard of living ?
4. How does the surrounding influence housing conditions ? Give examples.
5. Why is water an important factor in determining the number of people living in a region ?

Project Work

1. *Go to a nearby village. Choose a poor man's house and a rich man's house. Find the material used in the floor, walls and roofs. Find out how they get these materials.*
2. *With the help of your class teacher and classmates, make visit to a village and study the house types. Make a systematic study of each house, the material used in its construction, the type of roof, the directions of doors and windows and the directions of streets. Tabulate your observations and results. Discuss with some elders of the village and find out why the houses are built in a particular manner, why windows face or do not face a particular direction. You will find it very rewarding.*

CHAPTER 24

INDUSTRIES AND INDUSTRIAL TOWNS

Most of the food we eat, we get directly from the plants and animals. We get cotton, jute, hemp of flax fibre from the plants, silk and wool from animals but they have to be made into cloth. So also, there are many useful things like domestic furniture, the vessels we use and many other articles that we need which we have to make. These are made by craftsmen or by farmers during spare time. With a bit of skill, employing manual labour, a number of useful articles are made in the rural home. These are called rural or household or *cottage industries*. They depend upon the skill of the workers. They bring subsidiary income to the rural household. For example, in rural India, handloom weaving, bamboo works, embroidery, lace and brocade works, toy making are the industries engaged in, by the people. All these industries get their needs locally from the surrounding areas and make use of local manpower.

We need also a number of factory products in large quantities to make life comfortable. To run a factory, a number of things are essential First of all, we need material in large quantities. For example, to run a cotton mill, cotton is needed; for a steel mill, iron ore is necessary; for a sugar mill, sugarcane is necessary. These materials needed basically to run the industry are called *raw–materials*.

To produce factory goods in large quantities, human labour is not enough; machinery are needed. To run the machinery, power is necessary. It is got from burning coal, or from water power, or nowadays from atomic power. Large number of skilled as well as unskilled labourers is necessary. Large amounts of money or capital is also necessary to purchase machinery, to pay wages and to get materials. To bring the materials to the factory site and to take the factory product to the people, good and quick means of transport are necessary.

Water–supply, cheap land and energetic climate are also essential. Thus, raw material, labour, capital, machinery, transport, power water, supply and cheap land are the different needs that determine the location of a factory. These factors are therefore called *factors of localisation* of an industry.

An ideal factory site must have all these requirements at the site. But it is not always possible to have all factors favourable at a site. Therefore, a factory site is carefully chosen and all requirements, like raw material, power, watersupply, labour, machinery and capital are assembled at the site. The site is also connected by railways and roads, so that raw materials can be brought to the factory quickly and cheaply, and also the factory product distributed.

Since a factory needs large number of people to work, these factory workers will have to live closeby. They build their houses nearby, and a colony comes up. Thus, the factory brings prosperity and a town grows up. Such a town growing out of a factory location and depending on it is called a *factory town* or an *industrial town*. The larger the industry, the bigger the town.

Sometimes, the facility like harbour or a railway junction, or the existence of a large number of banks giving credit facilities may attract a number of industries to a place. Then, the town grows big to become an *industrial city*.

Let us take up indian examples to see how industries foster the growth of towns.

Bombay has a good harbour, a railway terminal and excellent roads radiating from it to nearby and far off areas. It has large banks, and labour is available in abundance from nearby villages. Power is got from the Ghats nearby and also from coal and atomic power. Water is brought by pipelines from large lakes; Skilled and trained people are available from technical institutions to run the machinery. Machinery can be imported through the harbour. Cotton, groundnut and minerals can be brought from the rural areas by train or imported from other parts. The people in the city and the country provide the market. Therefore, Bombay has become a leading city for cotton and oil mills.

Similarly, jute growing in Bengal has facilitated the growth of *Calcutta* into a jute mill centre. Leather and wool from nearby rural areas, and sugarcane and cotton from the Ganga plains have made *Kanpur* an industrial city with leather, woollen, cotton and sugar factories. *Tatanagar* has steel mills and factories for steel goods and locomotives, because it is located conveniently on the banks of the river Subernarekha and on the Calcutta-Bombay railway line, so that iron ore, coal and limestone can be assembled from the nearby mining areas and machinery from the port of Calcutta. The steel goods could be sent by rail to any part of the country. Paper mills in Maharashtra are located in *Ballarpur*, because bamboo for making the paper is got in the Chanda forests and Ballarpur has a thermal station producing coal power. Thus, every industrial city has favourable location for the growth of a particular industry or industries.

You have learnt in the earlier lessons about many industrial cities, like Chicago, Pittsburg, Rio de Janeiro and others. It will be interesting for you to find out why industries grew in them.

Exercises

1. What are cottage industries ? Name some major cottage industries of India.
2. What is the difference between a cottage industry and a factory industry ?
3. What are the localisation factors of an industry ?
4. Name some industrial towns of Maharashtra and state the industries in them. Also state why the specific industry has grown in that place.
5. Explain why Bombay has grown into a major industrial city.

Project Work

1. *From what you have learnt in earlier lessons, enumerate six major industries. Name one factory town for each of them and state why the industry has grown there.*

SECTION VI

PRACTICAL GEOGRAPHY

Geography is not only learnt in the classroom but also by actual observation of the Nature around us and of the people at work. Last year, you learnt how a river does work by looking at a river at close range. Now, you shall visit a market, a railway junction or a bus station or a dockyard or even a nearby village to see what work the people engage in, and how the work is good for the people. You will also learn about drawing of simple diagrams that will help you in understanding the study of geography.

CHAPTER 25

FIELD OBSERVATIONS

A Visit to a Market

The place you live in may be a village, a town or a city. If it is a village, it may have a market place, where a market is held once or twice a week, or even daily. If your place is a town or a city, you may have one or two streets where shops of all varieties selling all varieties of goods necessary for our daily life are located. It is the market or shopping centre of the town. Large cities like Bombay, Poona, Kolhapur and others may have more than one marketing area. For example, Bombay city has large marketing areas in Crawford market, Byculla and Dadar. City and town markets have a great variety of things. You will not only get your daily needs but all sorts of luxury products and fancy goods. On the other hand, a village market will have a limited range of goods. Make a visit to a nearby village market.

First, find out the day on which the village market meets. You may find in an area, different villages have different market days. This is because the same pedlars and tradesmen go from village to village together with their goods, so that in the course of the week, the tradesmen will have visited six or seven market villages in a round.

You must reach the market village pretty early in the morning. With the help of your teacher and classmates, arrange a group visit You may reach the village even the previous night. Find the market square and reach there as the sun rises. You will find out that the market square is an open ground, under the shade of large trees, often at the end of the village or in front of the village temple. It may lie on the main village street, close to a bus stop or railway station. Early in the morning, you will find the square empty. By about seven or eight, you will find tradesmen arriving in groups carrying their merchandise in bullock carts or on headloads. You may divide your class into groups, and each group may enquire from those arriving, from which village they are coming, how far the village is, and what the goods that they have brought for sale are.

Soon after, you will find the market square is full with these tradesmen. Each would have a spot under shade and spread his articles for sale. Besides these traders, you will also find some pedlars with petty things, some sweetmeat shops and some engaged in fun and frolic. Meet these people and learn about their weekly rounds. People will start pouring in to make daily and weekly purchases. Find out what they purchase, how long the purchase will last and from where the people come to make the purchase. Also find out how they reach the market place.

By midday, you will find the brisk part of trade is over, and people trickle out. By late afternoon, the pedlars begin packing up what is left over and move out. Make a note of all you have noticed and learnt by enquiry. At the end of the day, or later in the classroom all the information collected by the different groups may be summed up, tables made and a general report prepared.

It will be worth to visit the same village market three or four times in the course of the year during different seasons. You will notice that some articles are sold throughout the year. But, you will also notice that some goods are sold only in particular seasons. You will also see for yourself that the market is crowded more in one season than in others. Make a careful note of all these seasonal records and try to find the reasons for these seasonal variations.

You may also visit a nearby temple fair. It may meet once in a year at the time of a temple festival. The people who come may be more and may come from large distances. The fairs at such times may be quite large. You may cover such a fair with a large group of students, and make enquiries from different people to learn about the fair, just as you have done in case of the village market.

A visit to a railyard

A second visit of interest you can make is to a nearby railway junction or large bus station or dockyard. Visit the parcel office in the local bus or rail or dock depot. You will find piles of parcels, boxes, cases, baskets and the like, with addresses written over them. Some parcels will be sent out and some being brought in. You can find out the places to which they are being sent or the places from which they are arriving. By enquiry, you will also learn the contents. Make a table of the inward arrivals and outward despatches during the course of the day.

As in the case of the market visit, visit the parcel office on different occasions and different parts of the year. Record the seasonal variations in arrivals and despatches.

A visit to a village

A third visit you must make is to a village. With the help of your teacher, find out the taluka and district in which it is located. Also find out how to reach the village, the bus or rail or steamer route, and its frequency.

With the help of your teacher; draw a rough plan of the village streets and the the houses in it. Divide your selves into groups, and visit each of the houses. Find the following details :

(i) **About the house** : The direction the house, the doors and the windows face; the approximate size, number of rooms, the materials used in floor, wall and roof-making; the shape of the roof (flat or slanting); the number of floors, if any; special provisions for cattle-shed, grain storage, attic etc.

(ii) **Water-supply** : State here, where the people get the water from, for their living. If the house has its own well, whether it is lined or unlined (pucca or katcha), the depth of water in wet and dry season, whether the water is sweet or brackish. If the house does not have a well, find out where they get the water from and from what distance.

(iii) **Drainage** : Find out how the used, waste water is taken out in gutters; whether it is used in nearby fields or gardens. Find out also whether water stagnates near the house and whether mosquitoes and flies breed nearby.

(iv) **Occupations** : Find out how many members are earning in each house and what they do to earn an income. Find out what the people of the house, particularly the women, do in spare time. If there is a seasonal unemployment, find out what the people do then.

Sum up all your observations and make tables of your observations. Draw rough maps of the housing types, according to materials, types of roofs, and nature of occupation of occupants.

CHAPTER 26

GRAPHS AND BAR DIAGRAMS

Look at the figure 27. It shows by a simple graph the production of iron ore in India between 1952 and 1962. The graph is drawn in a simple manner. It shows the following data through a graph :

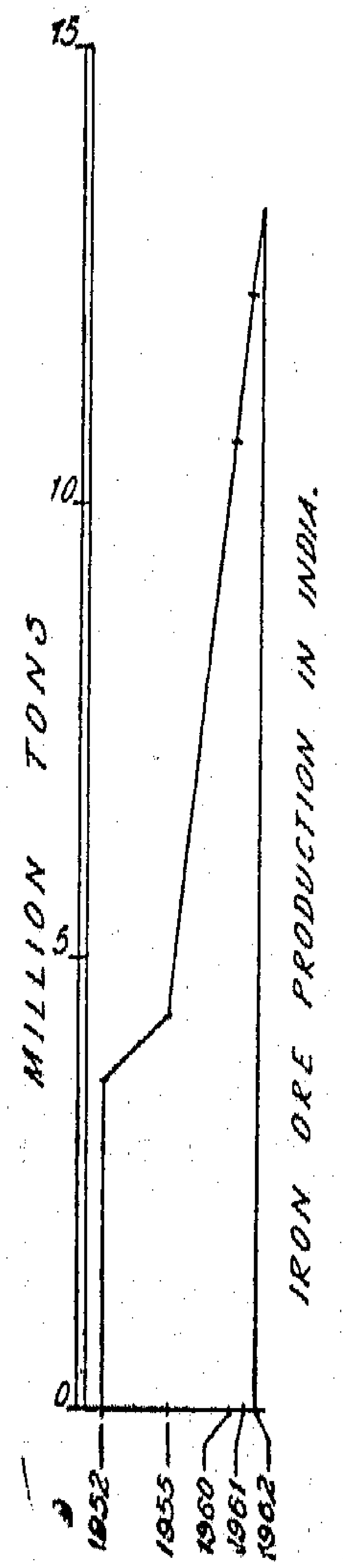


Fig. 27 A Graph showing Iron Ore Production in India

Iron ore output in India
(in millions of tons)

Year	1952	1955	5960	1962
Output	3·5	4·2	11·0	13·2

A scale is chosen to represent the data of output and the year. On the x axis, years are shown, so that 1 cm. is equal to 6 years. On the y axis, the output is shown as 3 cms. equal to 5 million tons. For each year, the output is marked as a dot against the year corresponding to the value on the y axis. Then the consecutive points are joined by st. lines. From this graph you can see, how the iron ore output has increased rather fast since 1955.

Study the graph in Fig. 28 (a) and (b) and record your observations regarding the world output of gold. Note your observations.

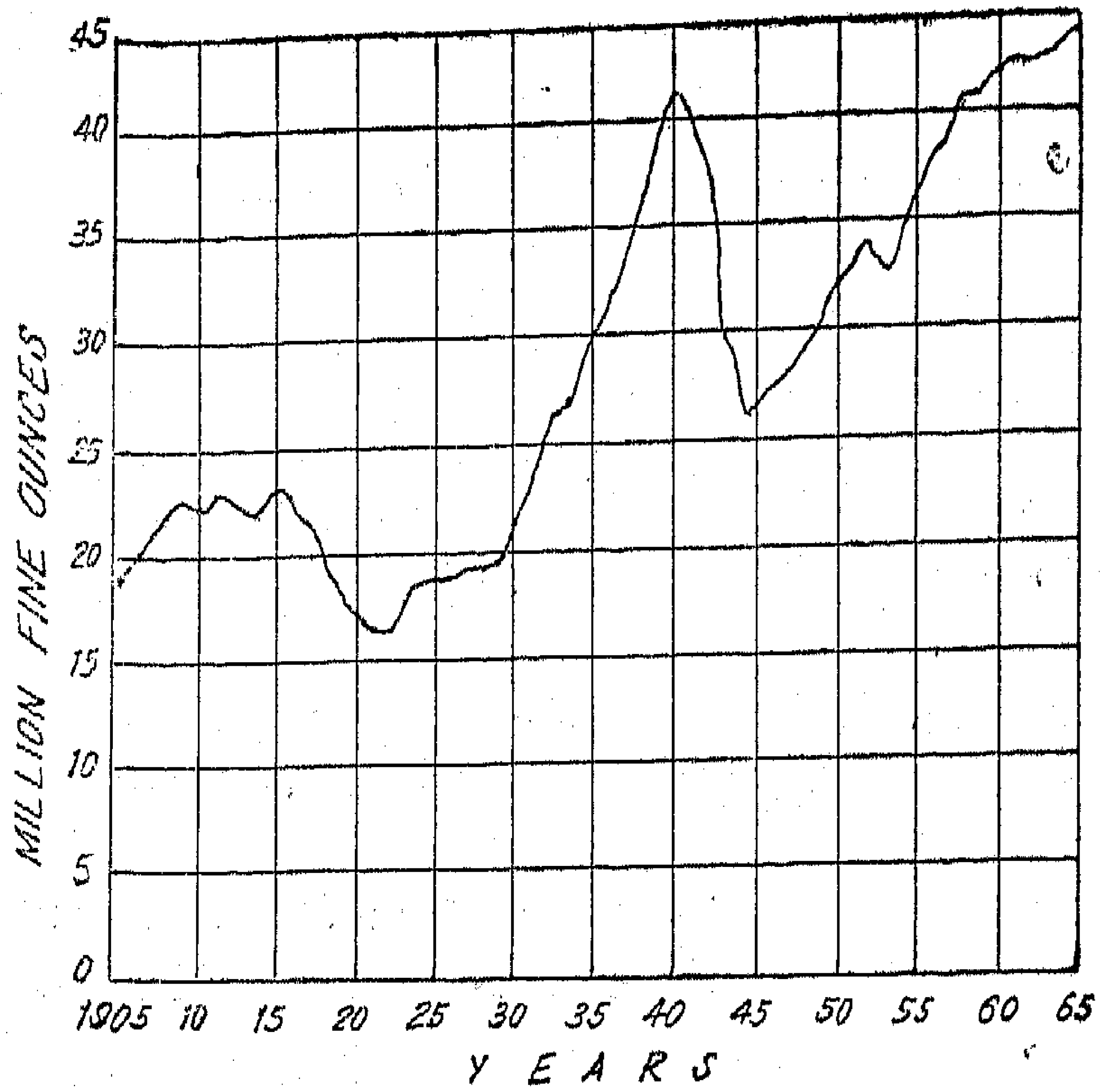


Fig. 28 (a): *GOLD PRODUCTION IN THE WORLD.*

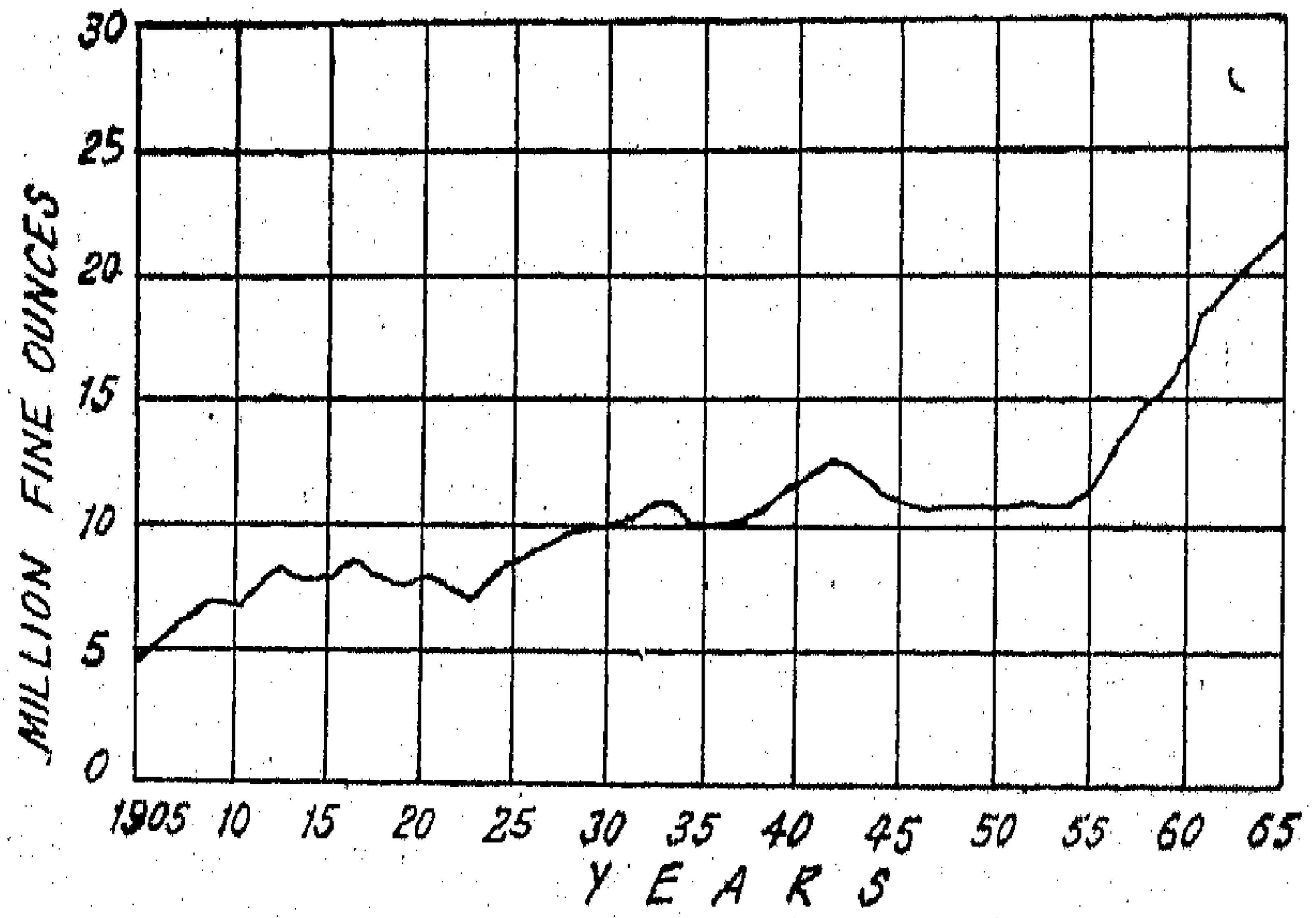


Fig. 28 (b): *GOLD PRODUCTION IN SOUTH AFRICA*

Egyptian cotton – high quality [illegible]

Represent the following data by a graph and record your observations :

Population of India in millions

Year	1901	1911	1921	1931	1941	1951	1961
Population	230	250	255	280	310	360	430

Sometimes, instead of a graph, a bar is used to show geographical data. Look at the figure 29. It shows the major groundnut growing countries of the world. In this case, each country is shown as a thin bar of uniform width. The bar may be shown horizontally or vertically. The length of the bar is made proportionate to the total output, according to a scale shown on the side. Look at the diagram again; from it you can state the leading producers, the largest producers and the order of importance of producers.

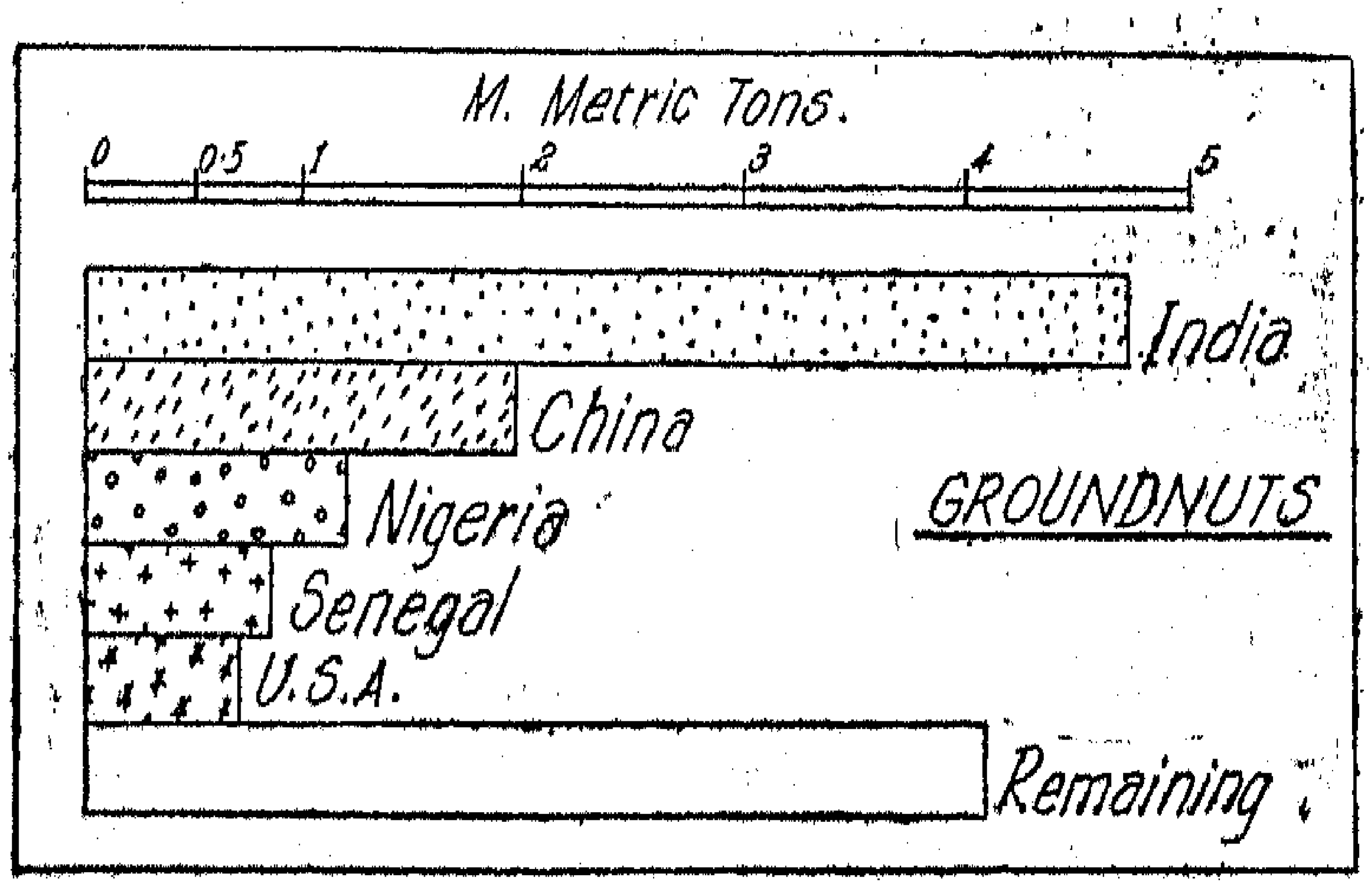


Fig. 29 : A Bar Diagram Showing Groundnut Producing Countries.

You can also draw similar bar diagrams. Study the bars given below and write a note on each group of bars, stating what they present, which the leading producer is and the order of importance.

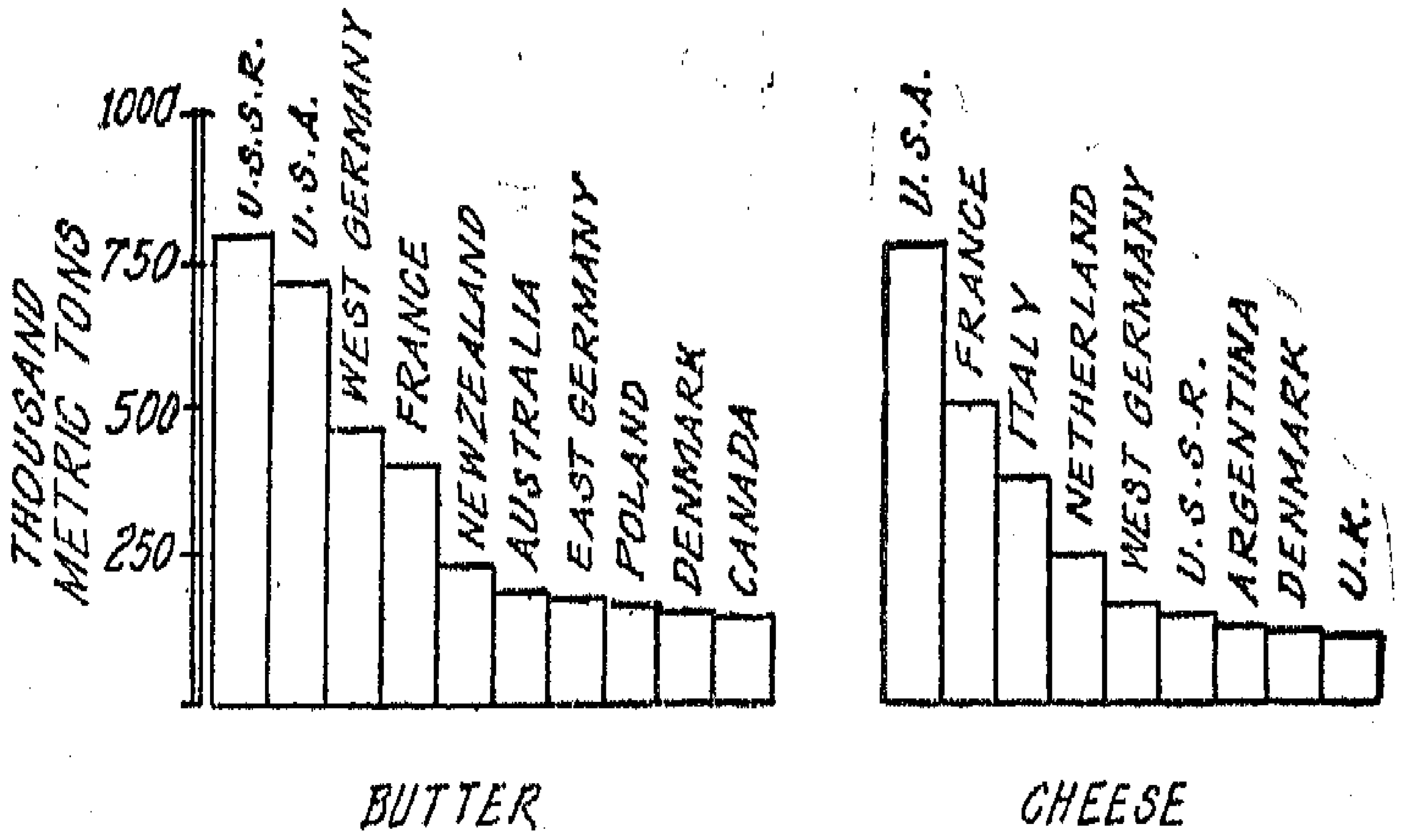


Fig. 30 : Bar diagrams, showing world production of butter and cheese

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